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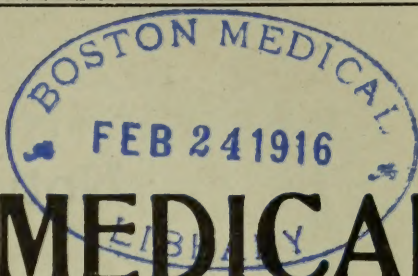
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# THE CLEVELAND MEDICAL JOURNAL

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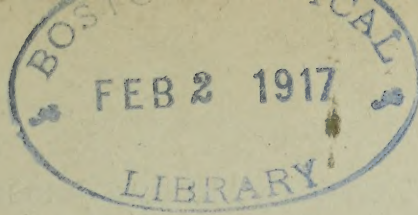
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## THE RESULTS OBTAINED WITH SALVARSAN INTRAVENOUSLY AND WITH AUTO-SALVAR- SANIZED SERUM INTRASPINOUSLY IN TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM

By RICHARD DEXTER, M. D.

The treatment of syphilis in general and of syphilis of the central nervous system in particular, has undergone marked and radical changes in the past five years. These changes depend for their being upon the epoch-making discoveries of Schaudinn, Wassermann and Ehrlich, together with a host of other workers, too numerous to mention, who have each contributed some part to our ever-increasing knowledge of the disease processes of syphilis. The introduction of Ehrlich's salvarsan opened a new field in the treatment of syphilis. The early results were in many instances unsatisfactory, but today we can frankly state that this drug has been a tremendous addition to the efficient treatment of the disease.

Among the most important changes in our viewpoint in regard to syphilis has been the new and now well-substantiated conception of the so-called parasyphilitic condition. Previous to the discovery of the spirocheta pallida by Schaudinn, tabes dorsalis and general paresis were considered to take their origin from the injuries of a pre-existing and long dead syphilis. The idea that they were due to the presence of an actual living organism and that they were simply a part of the active disease process of syphilis, was never generally admitted. The intensive study of the activities of the spirocheta pallida in the body which has taken up so great a part of the medical advance during the past 15 years has shown us, beyond peradventure of a doubt, that there is no parasyphilis, that each involvement of the nervous system by the spirocheta pallida is but another manifestation of the disease process of syphilis, and as such may be amenable to anti-syphilitic treatment to a greater or less degree.



We wish to discuss certain aspects of the treatment of syphilis of the central nervous system and to cite cases from our own experience. The conclusion that the pathological conditions involving the central nervous system were parasyphilitic and therefore beyond the reach of therapy, was based upon two observations: first, that in almost all cases history or physical examination pointed to a syphilitic infection which was no longer active, and, second, that under the old methods of treatment little benefit was to be expected from antiluetic treatment. Occasional cases of early and stormy involvement improved under mercury and the iodides, but *tabes dorsalis* and general paresis were usually unaffected by all forms of therapy. Our present knowledge of the protective and selective action of the structures which guard the central nervous system will explain this observation. It is known that very few drugs are excreted into the cerebro-spinal fluid, and it is probable that the mechanism which gives rise to the cerebrospinal fluid exerts an actual selective action for substances circulating in the blood stream. Therefore, lesions which are situated within reach of the blood stream may be affected by drugs which are carried to them by this route, but as far as the meninges and their adjacent structures are concerned, therapy which depends upon the blood stream for its distribution is notably inefficient. The work of Flexner on epidermic cerebrospinal meningitis, the various studies on the excretion of drugs and dyes into the cerebrospinal fluid, and more recently the work of Adler,<sup>1</sup> Swift,<sup>2</sup> Hall<sup>3</sup> and others on the excretion of arsenic into the subarachnoid space, all go to substantiate the fact that but very few drugs are excreted into the subarachnoid space.

Previous to 1912 the introduction of salvarsan or neosalvarsan directly into the subarachnoid space had been attempted by Marinesco<sup>4</sup> and others without any noteworthy results, except those of meningeal irritation. In 1912 Swift and Ellis<sup>5</sup> described a method whereby arsenic in the form of salvarsan might be brought into close contact with the meninges, without danger to the patient. Their technic is briefly as follows: 50 c.c. of blood is removed with aseptic precaution from the arm vein of a patient who has received salvarsan one-half hour previously. The serum is separated from the clot by a rapid centrifugalization. The serum is pipetted off the clot, care being exerted to leave no red cells or fibrin in the serum. This serum is then diluted to either



40 per cent, 50 per cent or 60 per cent with sterile normal salt solution and treated in a water bath at 56° C. for one-half hour. It is usually planned to have from 25 cc. to 30 cc. of the serum-salt mixture. Lumbar puncture is performed after the method described in the preceding paper of my co-worker, Doctor Cummer, and 15 cc. of spinal fluid are drawn off. The serum-salt mixture is then introduced into the subarachnoid space. The barrel of a 20 cc. Luer syringe fitted with rubber tubing and a slip joint is used for a funnel through which the fluid is introduced. The serum is allowed to flow into the subarachnoid space by gravity. The patient lies with the foot of the bed elevated for 3 or 4 hours, and is required to stay in bed for at least 24 hours from the time of intraspinal injection.

Other methods for the introduction of salvarsan and neosalvarsan into the spinal fluid have been suggested, notably the method of Ravaut,<sup>6</sup> and Udo J. Wile's<sup>7</sup> modification of this procedure. By this method small doses of neosalvarsan were introduced into the subarachnoid space, either dissolved in spinal fluid or in a solution isotonic with the spinal fluid. While the therapeutic effect of this method has been satisfactory enough, the procedure is frequently accomplished by very marked signs of irritation of the spinal cord, referred to the region of bladder and rectal control. For this reason the method has never come into general use.

The method described by Ogilvie<sup>8</sup> is an attempt to reproduce the chain of events in the Swift-Ellis method *in vitro* instead of *in vivo*. The blood is obtained by venipuncture and separated in the usual way. Minute doses of salvarsan, ranging between a quarter and a half milligram, are added to the serum. This serum-salvarsan mixture is allowed to incubate at body temperature for one-half hour. The serum is then treated exactly like the autosalvarsanized serum and injected in the same manner. Those who have used the Ogilvie technic claim excellent results for it. Though it has been found to be, on the whole, somewhat more irritating than the original Swift-Ellis method, it is claimed that more accurate dosage can be obtained, and this is undoubtedly true. Draper<sup>9</sup> has found that it is not possible to give more than four doses of serum prepared in this manner without producing irritative symptoms. On the other hand, by using the Swift-Ellis technic the patient not only receives the intraspinal treatment but has the added advantage of the intravenous injec-



tion and, apparently, any number of injections may be given with safety. Further, it has been recently shown that 50 cc. of blood, which has been removed one-half hour to one hour after the intravenous injection of salvarsan, contains amounts of arsenic which in terms of salvarsan vary between .25 to .5 mgm.; 0.5 mgm. is now considered to be the largest amount of salvarsan which can be introduced repeatedly with safety into the sub-arachnoid space. We have had personal experience with neither the method of Ravaut, Wile or Ogilvie, as we have used the Swift-Ellis technic exclusively.

We wish to report briefly our results with the intraspinal injections of salvarsanized serum. While our series of cases is not large, the value of the report may be increased by the length of time that some of the cases have been under observation.

*Case I.* W. I. S. A young man who had a meningo-vascular syphilis which had given symptoms for a year. He had had lancinating pains in the legs, and increasing difficulty in walking. When we saw him he had marked ataxia, double vision and a ptosis of the left eyelid. The knee and ankle jerks were absent and there were marked sensory disturbances. The right leg was partially paralyzed. The blood showed a strong positive Wassermann reaction. The spinal fluid showed a great increase in the globulin content, 153 cells to cu. mm., and a Wassermann reaction\* which was positive when but 0.2 cc. of the spinal fluid was used. This patient's progress was very slow and was, at times, discouraging. Each intraspinal treatment was followed by terrific explosions of the lancinating pains. He has been under observation over two years, and in that time he has received 12 intravenous injections of salvarsan (a total of 5.4 Gm.) and 7 intraspinal injections of 40 per cent serum strength. In addition, he has received numerous courses of mercury both by injection and by inunction.

#### *Results:*

When we began treatment the patient was incapacitated for work, and was suffering greatly from the ever-increasing lancinat-

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\*In performing the Wassermann reaction upon the spinal fluid, we have used 0.1 cc., 0.2 cc., 0.3 cc., 0.4 cc., 0.5 cc., and 1.0 cc. We follow the modification of the original technic which employs one-half quantities of all reagents. The antigens employed have been the alcoholic extract of beef heart fortified by the addition of 0.4 per cent cholestrin.



ing pains. When last examined the blood Wassermann reaction was negative. The spinal fluid showed a normal amount of globulin, 3 cells per cumm., and a Wassermann reaction positive only when 0.8 cc. was used.

In May, 1915, the patient reported that he had but one attack of pain the last year. He is pursuing his business as usual. He walks without difficulty and he has regained the power in his right leg. The ptosis of the left eyelid has disappeared. Otherwise, the physical findings are the same except that the disturbances of sensation have practically disappeared.

*Case II.* W. M. B. A male of 45, suffering from a moderately advanced tabes. His symptoms had been slowly advancing for two years and consisted of increasing uncertainty in walking, lancinating pains in the legs, and marked numbness of the feet. The pupils were unequal but reacted to light and accommodation. The knee and ankle jerks were absent. There were distinct sensory changes to be made out over the lower extremities and marked hypotonia. Romberg's sign was present. The patient had received three intravenous injections of salvarsan without any improvement in his condition previous to the time at which we saw him. The blood showed a strongly positive Wassermann reaction. The spinal fluid showed a moderate increase in globulin, 75 cells per cumm., and a Wassermann reaction positive in 0.1 cc.

The patient has been under observation for a period of over two years, in which time he has received 20 intravenous injections of salvarsan or neosalvarsan (the equivalent of 10.7 Gm. of salvarsan) and 15 intraspinal injections of salvarsanized serum.

*Results:*

After the first intraspinal injection the lancinating pains disappeared, never to return. The spinal fluid when last examined showed a normal amount of globulin, and a normal cell count. The spinal fluid Wassermann was reduced 50 per cent in strength. Physical examination showed no change in the pupillary reflexes, nor was there any return of the deep reflexes. Sensations over the legs were, however, practically normal and there was no Romberg sign. The patient is now operating his ranch in the west, riding, walking, ploughing and so forth, without any difficulty. It is interesting to note that in this case a serious relapse occurred which was coincident with a course of mercurial treatment.



*Case III.* H. O. B. A young man was admitted to the Cleveland City Hospital with the diagnosis of alcoholism. He was delirious and had been drinking heavily for some time. Shortly after admission the patient developed symptoms of meningitis, unconsciousness, rigid neck, Kernig's sign, double Babinski's sign and fever, accompanied by a facial hemi-paresis and a paralysis of the left arm. The spinal fluid was turbid and contained a greatly increased amount of globulin, 550 cells per cumm., and a Wassermann reaction positive in 0.1 cc. of the fluid. The blood Wassermann reaction was also strongly positive. The acute symptoms cleared up under intramuscular injections of Hg. Biniodid, gr.  $\frac{1}{2}$ , of which he received 18 injections. His recovery was slow. His mental status suggested paresis. During the next three months the patient received 7 intravenous injections of salvarsan, a total of 4.05 Gm., and 6 intraspinal injections of salvarsanized serum. He left the hospital greatly improved. He reported for examination 8 months later. Except that the pupils reacted a little sluggishly to light and that a slight paresis of the left arm remained, the physical examination was negative. His speech was a little slow, but his mind was clear. The blood Wassermann reaction was negative. The spinal fluid showed a normal globulin content, 3 cells per cumm., and a Wassermann reaction positive only when 0.7 cc. of the fluid was employed. Since leaving the hospital he has returned to his occupation and is now acting as manager of a shoe store.

*Case IV.* C. H. Z. A man with moderately advanced tabes of several years standing. His chief complaint was of gastric crises, which were severe enough to lay him up about half of the time. He lost, on the average, two weeks of every month. His general condition was very poor. He had Argyll-Robertson pupils, absent knee and ankle jerks and marked incoordination with definite disturbances in sensation. The spinal fluid showed a great globulin increase, 62 cells per cumm., and a Wassermann reaction positive with 0.2 cc.

This patient was under observation for 11 months. In this time he received salvarsan or neosalvarsan intravenously 9 times, or an amount equivalent to 4.6 Gm. of salvarsan, and 9 intraspinal injections. His improvement has been marked. His gastric crises have disappeared and he has gained in weight and strength. The physical signs are much the same, except that the Romberg's sign and incoordination have disappeared. He is



able to attend to his business and enjoy life, which he had not done for several years before the intraspinal treatment was instituted. At the last observation the globulin content and cell count in the spinal fluid were normal and the Wassermann reaction was negative, even when 1.0 cc. of the spinal fluid was used. It is fair to believe that in this case the process has been arrested.

*Case V.* Mrs. W. A. D. A young woman who had an early tabes dorsalis. Symptoms had existed for 18 months. She had incontinence of urine and was uncertain on her feet. She had unequal pupils which did not react to light, absent knee and ankle jerks and Romberg's sign. The sensory symptoms were not marked. The Wassermann reaction in the blood was strongly positive. The spinal fluid showed an increase in globulin, 95 cells per cumm., and a Wassermann reaction positive when but 0.1 cc. was used. For a year before consulting us the patient had received a great deal of mercury by injection, with scarcely any improvement in her condition.

The patient was under observation for 4 months, in which time she received 6 intravenous injections of salvarsan or neo-salvarsan, equivalent to 3.0 Gm. of salvarsan, and 2 intraspinal injections.

The physical examination reveals no change in the pupillary reflexes or in the ankle or knee jerks. The Romberg's sign is not present. The spinal fluid now shows no increase in globulin content or in the number of cells. The Wassermann is negative in 0.5 cc. of the fluid but positive in 1.0 cc. The patient has no trouble from incontinence and her gait is steady. In her own words, "I can now run up stairs from the basement to the second story, instead of stopping once or twice to take the twist out of my legs as I used to do."

*Case VI.* D. W. H. A young man with moderately advanced tabes, associated with considerable involvement of the meninges. His symptoms dated back to a nervous breakdown, with stomach trouble, which occurred in March, 1913. On analysis it was found that this stomach trouble was evidently due to gastric crises; 18 months later he began to have pain and stiffness in the back and legs, which advanced so rapidly that he was soon unable to walk. The patient consulted Doctor H. M. Brundage, of Columbus, in December, 1914, from whom he received the early part of his treatment and to whom we are in-



debted for the following facts. At that time the blood Wassermann was strongly positive. The spinal fluid showed a marked globulin increase, 150 cells per cumm., and a strongly positive Wassermann in 0.1 cc. of the spinal fluid. When we saw him some months later he showed irregular and unequal pupils which reacted promptly to light and accommodation, absent knee and ankle jerks, Romberg's sign and incoordination. These sensory changes were marked. The sensation of vibration was absent from the middle of the thigh downward on each leg. The patient has received in all 7 intravenous injections of salvarsan, a total of 3.5 Gm., and 7 intraspinal treatments. The first three of these were administered by Doctor H. M. Brundage. While the deep reflexes remain absent, his coordination is practically perfect. His muscle sense is good. The appreciation of vibration and of painful sensation is practically normal. The patient has no pains and no stiffness; he takes exercise and goes about his daily life with zest. The Wassermann reaction is negative in the blood. The spinal fluid shows no increase in globulin nor in the number of cells. The Wassermann reaction in the spinal fluid is negative even when 1.0 cc. of the fluid is employed. This case may be considered as an arrested case, both from the clinical and serological point of view. He has regained his ability to carry on life comfortably and normally and he has no demonstrable signs of an active syphilis about him.

*Case VII.* H. R. A young man who had a well advanced tabes dorsalis. The patient had suffered attacks of excruciating lancinating pains in the legs and chest for 5 years previous to the time that we saw him. The attacks of pain sometimes lasted 36 hours. There was some incontinence of urine. The pupils were widely dilated and responded to light. The knee and ankle jerks were absent. A slight Romberg's sign was present. The blood showed a strongly positive Wassermann reaction. The spinal fluid showed a marked globulin increase, 10 cells to the cumm., and a Wassermann reaction positive with 0.5 cc. of the fluid. The patient was under our observation for 10 months, during which time he received 6 intravenous injections of salvarsan or neosalvarsan, an amount equivalent to 2.65 Gm. of salvarsan, and 6 intraspinal injections, in addition to which he received intramuscular injections of the salicylate of mercury with regularity.



During the period of treatment the lightning pains decreased very much and the patient was able to sleep and to work better. The spinal fluid, examined after 5 intraspinal treatments, gave entirely negative results to all three tests, though interestingly enough, the blood remained positive. The physician who referred the case to us has recently informed us that, in July, 1915, the patient died from an acute nephritis following an ivy poisoning which involved almost the whole cutaneous surface. The symptoms in this case were only partially relieved, but the effect on the serological findings in the spinal fluid were rapid and marked.

*Case VIII.* L. B. D. A man of 40 with advanced tabes. His cord symptoms had been present for a number of years. He was anemic and emaciated. He had Argyll-Robertson pupils, absent deep reflexes, ataxia, incoordination and sensory changes. The blood gave a strong positive Wassermann reaction. The spinal fluid showed a marked globulin increase, 23 cells per cumm., and a Wassermann reaction positive in 0.3 cc. of the fluid. For two months before the intraspinal treatments the patient received mercury by intramuscular injection intensively. During a period of two months he received 4 intravenous and 4 intraspinal injections. The physical condition was unchanged by the treatments. The spinal fluid still showed a large globulin increase and a strongly positive Wassermann reaction in 0.3 cc. The cell count, however, was modified from 23 cells to 1 cell per cumm. Too little treatment was administered in this case to allow of a conclusion one way or the other. It is certain that on account of the advanced stage of the disease and the poor condition of the patient that the prognosis for improvement was but dubious at best.

*Case IX.* A. J. K. A man, 31 years old, with a well established tabes dorsalis. The symptoms extended over a period of nearly 5 years. The blood was negative but the spinal fluid showed marked globulin increase, 12 cells to the cumm., and a Wassermann reaction positive with 0.2 cc. of that fluid.

Previous to the intraspinal treatments the patient had had 6 months of mercurial injections and one intramuscular injection of neosalvarsan, with slight improvement in his symptoms. Under the mercurial treatment the blood Wassermann reaction became negative. He received 5 intravenous injections of salvarsan or neosalvarsan, equivalent to a total of 2.5 Gm. of salvarsan, and 4 intraspinal injections. At the last observation the spinal



fluid showed a normal cell count but the globulin was still increased and the Wassermann reaction was unchanged. We feel that the patient was under treatment too short a time to warrant any conclusions being drawn from his case. The patient reports, however, that he can perform his duties as a farmer better this summer than he could a year ago.

*Case X.* J. W. T. A man of 44 who has a tabes dorsalis with signs of meningeal irritation. He had had severe pains in the legs for 10 months and marked ataxia for 5 months. He was emaciated and weak and complained of a constant girdle sensation. He had Argyll-Robertson pupils, absent knee and ankle jerks and marked hypotonia. The blood showed a negative Wassermann reaction but the spinal fluid showed an increase in globulin, a cell count of 57, and a Wassermann reaction positive with 0.5 cc. of the fluid.

The patient received 4 injections of the 10 per cent suspension of the salicylate of mercury at 4-day intervals, which caused a diarrhoea. During this period his girdle sensation became very troublesome. He has received 4 intravenous injections of salvarsan, a total of 1.55 Gm. salvarsan and 4 intraspinal injections in a period of 6 weeks. After the second intraspinal treatment it was found that the Wassermann reaction in the spinal fluid was considerably stronger than it was at first. When last examined, however, the cell count was only 3 per cumm., the globulin content was normal and the Wassermann reaction was negative with 0.5 cc. but strongly positive with 1.0 cc.

Already the lancinating pains have abated so that the patient is able to get his rest. His appetite has improved and he walks with much less difficulty. While this patient has not been under observation long enough to draw any final conclusions, his clinical and serological improvement has been marked.

*Case XI.* A. E. S. A man of 35 with tabes dorsalis and optic atrophy, possibly with a nerve relapse from previous salvarsan medication. He has received a moderate amount of mercurial treatment at intervals during the last 8 years. Eyesight began to fail 12 months ago, and at this time he received three intravenous injections of salvarsan and some mercury by injection without effect on his eyesight. At this time a diagnosis of beginning atrophy of the optic nerve was made. Two weeks previous to the time at which we saw him he began to have severe attacks of dizziness, accompanied by marked incoordination in walking and weakness, with numbness and tingling in the arms and legs,



and loss of sexual power. The sight failed rapidly. He had unequal and irregular pupils, absent knee and ankle jerks, marked incoordination and very marked sensory disturbances, the sense of pain and vibration being completely lost in the thighs and legs. The spinal fluid showed a very great increase in globulin. There were 126 cells per cumm. and the Wassermann reaction was strongly positive in 0.1 cc. In a period of 14 weeks he has received 6 intravenous injections or a total of 2.85 Gm. of salvarsan and 6 intraspinal treatments. In addition to this, the patient has received mercury by injection constantly. At the last examination the spinal fluid showed:

Globulin content: distinctly lessened. Cell count: 12.

Wassermann reaction: unchanged.

The numbness in the legs has gone. The patient walks well, considering how little he can see. There is now no dizziness. The eyesight is not improved. This case is evidently very resistant and the outcome is still in doubt. The symptomatic improvement, nevertheless, has been marked.

*Case XII.* J. L. S. A man aged 45, who had had slowly increasing symptoms of general paresis for two years. Intensive mercurial treatment had not caused any improvement in his condition. His speech was thick. He had difficulty in writing. He was slightly ataxic and had lost much weight. The pupils were unequal and irregular. The knee and ankle jerks were exaggerated. The blood showed a strongly positive Wassermann reaction. The spinal fluid showed a very marked globulin increase, a cell count of 25, and a Wassermann reaction positive in 0.2 of the spinal fluid.

He has received 5 intravenous injections of salvarsan, or a total of 2.1 Gm., and two intraspinal injections. When last examined the spinal fluid showed distinct reduction in the globulin content, a normal cell count and a Wassermann reaction negative in 0.5 cc. but positive in 1.0 cc. The general health of the patient was much improved. The speech defect has cleared up considerably. The patient, of course, has been under observation too short a time to warrant any conclusions. Still the effect of the treatment on the general health and on the cerebrospinal fluid is interesting in the extreme.

Under the intraspinal treatment we have found that the increased globulin content in the spinal fluid is very resistant. A moderate increase in globulin often persists after several treatments, as in Cases VIII and IX, where only a very slight decrease



in globulin has occurred after three treatments, and Case XI, where only a slight decrease has been noted after 6 treatments. The pleocytosis disappears rapidly. In Case I lymphocytosis of 550 per cumm. came within normal limits after six intravenous and four intraspinal injections.

Cell counts of 150 or below usually diminish to normal limits after from one to three treatments. We have found that the Wassermann reaction in the spinal fluid is the most obdurate of the laboratory findings. The reaction often persists in the larger doses of spinal fluid long after the other laboratory findings have come within the normal limits.

The changes in the physical findings which we have noted under the intraspinal treatment have been a partial or complete disappearance of the disturbances of sensation, lessening or disappearance of ataxia and marked increase in weight and strength. In no case, so far observed, have we seen absent deep reflexes return, nor have we seen any change in the pupillary reactions.

The abatement or disappearance of symptoms has been most striking. In every instance where lancinating pains were present, they have either disappeared completely or have diminished so much that they have ceased to be a real annoyance. In Case III gastric crises which had nearly incapacitated the patient have disappeared. The rapid movement in the general condition, in weight, in strength and in the return of the ability to carry on the daily routine of employment is very striking. In some cases this improvement in the general condition can be attributed to the abolition of pain, but in others (notably Cases III, V and IX), where pain has not been a feature, this general betterment was noted. Vesicle incontinence in one case has been so much less frequent that it has almost ceased to be an annoyance.

Out of the 12 cases here reported six have returned to a state of bodily comfort consistent with the pursuit of a normal existence. Two have shown moderate improvement, so that while still occasional sufferers they are able to support themselves. One case has shown no improvement whatsoever. Two cases which have had an insufficient amount of treatment, show marked symptomatic improvement which we consider encouraging. The only case of general paresis reported shows no improvement in the mental condition but a distinct improvement in the serological findings and the bodily condition has occurred under the treatment.



We have given 69 intraspinal injections of autosalvarsanized serum in 12 cases. Further, we have given 6 similar treatments not included in the above series, making a total of 75 injections. Following these injections we have seen no symptoms, temporary or permanent, which could in any way be attributed to injury of the central nervous system. We have seen no deaths, paralysis or bladder disturbances. One of our patients died of an intercurrent condition 7 months after the cessation of treatment. Two of the patients have experienced no discomfort from the procedure. When gastric crises or lancinating pains exist, we have learned to expect attacks of pain, in all ways similar to the pre-existing crises. These crises usually follow the treatment after an interval of from two to four hours and they are often very severe. Their duration is usually short, and they are followed by much increased periods of freedom from pain. As the treatment continues these post-operative attacks become less and the spontaneous crises often disappear entirely.

It is of interest to note that those patients who have had these reactions of pain following the treatment have showed greater and more rapid improvement than those who have had no discomfort from the procedure.

There are some cases, of course, which will not require the intraspinal administration of salvarsanized serum. The following instances will serve as illustrations.

*Case XIII.* A. D. L. A young man of 35 had had a doubtful infection 18 years ago. For two weeks he had had peculiar numb feelings in the feet and hands and his legs felt stiff. Physical examination revealed no abnormalities except that the left pupil was larger than the right and that both reacted to light a little sluggishly. The blood Wassermann reaction was strongly positive. The spinal fluid was under increased pressure. It showed an increase in globulin, a cell count of 52 and a Wassermann reaction positive in 0.1 cc. This patient has been under observation for 18 months. The patient received mercury by injection for two months, during which time he grew worse, his symptoms increased and he developed a girdle sensation. Salvarsan and neosalvarsan were given intravenously 7 times. He received an amount equivalent to 2.45 Gm. of salvarsan. In December, 1914, the spinal fluid showed a Wassermann reaction positive only in 1.0 cc. of the spinal fluid. The blood has been negative to the Wassermann reaction for a year. The patient



has felt absolutely well for a year. He has no demonstrable sign of disease about him.

*Case XIV.* W. A. McN. He came to us with the signs of an early advancing tabes. He was chiefly troubled by pains in the legs and stomach. His mind was slow and he could no longer perform the duties of a train dispatcher. His blood Wassermann reaction was strongly positive. Unfortunately, the record of the condition of the spinal fluid, which was examined at this time, is not available. Under mercury he made very slight improvement. He has received in all 16 intravenous injections of salvarsan or neosalvarsan, equivalent to 8.75 Gm. of salvarsan. The blood Wassermann reaction has been negative for nearly a year. The spinal fluid, which was examined 10 months ago, showed no increase in globulin, 3 cells to the cumm., and a Wassermann reaction negative in 0.5 cc. but strongly positive in 1.0 cc. He has been back at his old post, which is one of great responsibility, for a year. He has gained much weight. His lightning pains have gone. He is steady on his feet. His pupils, which were unequal and irregular when we first saw him, are now equal and regular. The knee jerks remain absent. As far as his work, his life and his efficiency are concerned he is a well man.

On the other hand, there are cases in which intravenous injections of salvarsan seem to be insufficient. In such cases, while the clinical improvement is often marked, the serological symptoms of the disease remain practically unaffected. The following instances are typical of this class of cases: The first instance was a man of 49, who had had indefinite symptoms referable to the central nervous system for seven years. He has been unsteady on his feet for five years and has had ever-increasing numbness and tingling in the feet, accompanied by severe attacks of pain in the legs, and very troublesome headaches. He recently found that his mental acuteness and ability to work was much affected. His pupils were unequal and irregular and did not react to light. His knee and ankle jerks were absent. There was incoordination and marked sensory changes. In addition to this, he carried a systolic blood pressure of 190 with a diastolic pressure of 140. There was a faint trace of albumin and a few casts in the urine. The blood Wassermann reaction was negative but the spinal fluid showed 124 cells per cumm., and a Wassermann reaction positive in 0.2 cc. He has received 6 intravenous injections of salvarsan, a total of 2.3 Gm. His spinal



fluid now shows a faint trace of globulin and 25 cells per cumm., but the Wassermann reaction is quite as strongly positive as it was before treatment was begun. While the physical signs have changed scarcely at all, the symptomatic improvement has been very marked. The pains and headaches have gone. The numbness and tingling are greatly lessened and the ability to work at high pressure has returned. It is interesting to note that the patient has had no untoward effects from the injection of salvarsan despite the high blood pressure and evidences of nephritis. While the symptomatic improvement has been very marked, the Wassermann reaction in the spinal fluid is yet unaffected, and it is likely that it will not be much changed unless the intraspinal treatment is administered.

A second instance of this kind is that of a man 37 years old, who was infected with syphilis 16 years ago, for which he received very little treatment. He had been well up to two weeks before we saw him, when he began to have terrific spells of nausea and vomiting associated with dizziness. The pupils were unequal and irregular and did not react to light. There was no sensory disturbances. The blood Wassermann reaction was strongly positive. The spinal fluid was not examined at this time. The patient received intramuscular injections of mercury for 4 months, under which the blood Wassermann reaction became negative and there was an abatement in his symptoms. He then received 6 intravenous injections of salvarsan or neo-salvarsan, an amount equivalent to 3.2 Gm. salvarsan. During this time the symptoms entirely cleared up and the patient felt as well as he ever did. He not only worked hard but played baseball and labored in his garden. The spinal fluid examined after the 6th injection of salvarsan showed a marked globulin increase, 163 cells to the cumm., and a Wassermann reaction positive in 0.2 cc. In this case we still have signs of a very active syphilis of the central nervous system which at present is not causing symptoms. It is probable that this condition cannot be controlled satisfactorily without the intraspinal administration of salvarsan.

In conclusion, we wish to state our opinion in regard to the treatment of syphilis of the central nervous system.

(1) There are undoubtedly cases in which an arrest of the process may be accomplished by the use of mercury alone. On the other hand, there are a very definite number of cases of syphilis of the central nervous system in which the action of



mercury is positively detrimental. In these cases, salvarsan frequently acts extremely well and is an invaluable addition to our armamentarium.

(2) There are many instances in which the process may be arrested by the intravenous injection of salvarsan alone. These are usually meningo-vascular involvements, and the best results are to be expected in the early cases, especially those which have begun to have symptoms, but in which the physical signs of the disease are either absent or slight. Whether the abolition of all the serological signs of the disease can be expected under the intravenous administration of salvarsan is, as far as our experience goes, still open to doubt.

(3) When mercury given intramuscularly or the intravenous injections of salvarsan have failed to arrest the process satisfactorily, the intraspinal administration of auto-salvarsanized serum will have a markedly beneficial effect in a large proportion of cases.

(4) The form of affection most amenable to treatment is that with meningo-vascular involvement. The greater the central degeneration the less can be expected from treatment, for there is no drug which can re-establish nerve tissue once it has been destroyed. As it is often difficult to differentiate clinically between these types of the infection, active and intensive treatment should be tried in most cases. However, it is probable that very little can be done in most cases of general paresis.

(5) The Swift-Ellis method for the intraspinal administration of auto-salvarsanized serum, when carefully administered and rigidly adhered to, is a safe and eminently proper procedure for the combating of syphilis of the central nervous system.

### Bibliography

1. Adler, H. M.: *Boston Med. & Surg. J. V.*, CIXXI, No. 24, p. 900.
2. Swift, H. F.: *J. A. M. A.*, July 17, 1915, p. 204.
3. Hall, G. W.: *J. A. M. A.*, July 24, 1915, p. 1384.
4. Marinesco, G.: *Presse Med.*, 1911, XIX, p. 65.
5. Swift, H. G., and Ellis, A. W. M.: *N. Y. Med. Jour.*, 1912, XCVI, p. 53.
6. Ravaut, P.: *Bull. et men Sec. med. d'hop d Paris*, 1913, XXXVI, p. 752.
7. Wile, U. J.: *J. A. M. A.*, April 11, 1914, p. 1165 *J. A. M. A.*, July 11, 1914, p. 137.
8. Ogilvie, H. S.: *J. A. M. A.*, Nov. 28, 1914, p. 1936.
9. Draper, G.: *Arch. Int. Med.*, 1915, Jan., p. 16.

AN ANALYSIS OF THE DEATH CERTIFICATES  
WHICH WERE RETURNED TO PHYSICIANS  
FOR CORRECTION BY THE DIVISION OF  
HEALTH, CITY OF CLEVELAND, JANU-  
ARY 1 TO JUNE 30, 1915

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City, State and Federal bureaus dealing with vital statistics are endeavoring in every way possible to improve and to increase the accuracy of such statistics. The idea is to make the data relating to vital phenomena gathered by statistical methods as accurate as possible, so that reliable deductions may be made and readily available information obtained which shall be of real value to the movement to procure more healthful conditions. It is also extremely important that uniform methods be used in compiling the data of vital statistics, so that valuable comparisons can be made between different cities, States, etc. To attain these ends with accuracy and uniformity, the Health Department endeavors to secure correct certification of the cause of death on each certificate filed, and uses the International List of Causes of Death in classifying deaths.

In order that the International List of Causes of Death may be used, it is essential that the causes of death on the certificates should be definite and accurate. Ill-defined and loose terms should as far as possible be eliminated, for otherwise the death cannot be assigned to its proper place in the classification.

To obtain this much-to-be-desired accuracy, which is essential to efficient vital statistics, the Health Office returns regularly a number of death certificates to physicians in order that corrections or additions may be made in the medical certificate of death or in order that the cause of death may be more definitely stated. The success of this plan depends upon the assistance and co-operation of the practicing physicians. It is to be hoped that all physicians in making out death certificates will give the cause of death as accurately and definitely as possible. It is also hoped that when asked they will co-operate in making any alterations or corrections in the way of greater clearness by attending to the matter at once and returning the certificate at the earliest possible moment. All these details will greatly aid in improving our vital statistics.



This paper will be devoted to an analysis of the death certificates which were returned to physicians for correction from January 1 to June 30, 1915. As far as possible the reasons for returning the certificates will be discussed and explained. It is hoped that this discussion will be of some assistance in showing what terms should be avoided in returning deaths, and also that it will be of some help to physicians in the task of giving the causes of death more accurately.

It will be necessary to make frequent reference to the International List of Causes of Death in order to bring out some of the points. A consideration of the reasons for returning the certificates will be taken up in the order of their importance, beginning with the reason for returning the largest number of certificates.

During the period under consideration, 4,749 certificates were registered at the Health Office, and of this number 422 or 8.9 per cent were returned for corrections.

Seventy certificates were returned because the type of pneumonia was not stated. In general two types of pneumonia are recognized, the broncho and the lobar. In order that the deaths caused by pneumonia may be correctly classified, it is necessary that as far as possible the type of pneumonia be definitely stated as of the broncho or lobar type. It is not sufficient merely to state pneumonia as a cause of death. If the type cannot be determined the proper procedure is so to state on the certificate.

If the pneumonia is secondary to some other disease, such as typhoid fever, whooping cough, measles, phthisis, etc., the primary condition should always be stated in addition to indicating definitely the type of the pneumonia.

Seventy-nine certificates were returned on which the cause of death was given as due to external causes or violence. Very frequently it was not stated whether the death was due to accident, suicide or homicide. It is necessary that a definite statement be made as to whether the deaths were due to accident, suicide or homicide, since the International List makes provision for these three classes of deaths due to external causes. In addition the means or instrument of death should be indicated in each case. This information was omitted on many of the certificates and so they were returned in the endeavor to obtain it. So in every case of death due to violence the nature of the

injury should be indicated, and a statement made as to how it occurred and whether it was accidental, suicidal or homicidal.

In those cases where death is caused by burns, it should be stated as to whether the burns were received as the result of a conflagration or hot liquids. Thirteen certificates were returned because this information was not given and was needed to make proper classification possible.

As the International List divides nephritis into acute and chronic types, it is desirable that as far as possible deaths should be returned as definitely caused by acute or chronic nephritis. Nineteen certificates were returned because nephritis was given as the sole cause of death, no statement being made as to whether it was acute or chronic. If the nephritis is secondary to any such condition as scarlet fever, measles, the ingestion of poisons, etc., these primary conditions should be indicated on the certificate.

Sixteen certificates were returned because paralysis was given as the cause of death. This is a most unsatisfactory cause of death because it is a symptom and not a disease. It may be caused by such conditions as cerebral hemorrhage, acute poliomyelitis, syphilis and so on. These primary conditions are the ones which should be given as the cause of death.

Twelve certificates were returned because intestinal obstruction was assigned as the cause of death. The primary cause resulting in this condition should be stated. It may be due to intestinal cancer, to strangulated hernia, or to adhesions following an operation. In the latter case the disease or condition necessitating the operation should always be indicated. The aim is to classify the death under the primary disease or condition which finally resulted in intestinal obstruction; so the use of the term intestinal obstruction unqualified is not satisfactory.

In twelve cases certificates were returned because the nature of the tumor causing death was not given. While it is somewhat difficult at times, still as far as possible the nature of the tumor causing death, as to whether it is carcinoma, sarcoma, fibroid or what not, is to be indicated on the certificate.

In eleven cases the condition necessitating operation was not given. Surgical operations, hysterectomy, laparotomy, etc., are not satisfactory causes of death. The primary condition necessitating the operation should always be clearly stated. If the operation was called for because of a condition resulting from



external violence, the nature of the injury should be given, and also how it occurred and whether it was accidental, suicidal or homicidal.

Eleven certificates were returned because it was not clear whether a child was stillborn or not. The term stillbirth should be used only in the case of a child which is *born dead*. If the child lives for any length of time whatever, some other cause must be assigned to account for its death. Prematurity should not be given in a case where the child is born dead unless it is clearly indicated that the fact that the child is premature is responsible for its being born dead or stillborn. It is important that on the certificate of every child born dead the term stillborn should appear in addition to whatever other reasons may be assigned for the stillbirth. It is also important that doctors see to it that no age is given for a still born child, for if the child is reported as stillborn and an age is given, it is very confusing and as a rule the certificate must be returned to clear up the conflicting information before a proper classification can be made.

As far as possible it should be indicated whether bronchitis is acute or chronic. Eleven certificates were returned because this was not done.

If cholecystitis is due to gallstones, it should be so stated on the certificate in order that the death may be attributed to biliary calculi and not to simple cholecystitis. Ten certificates were returned for inquiry as to whether the cholecystitis was caused by biliary calculi.

Ten certificates were returned because tuberculosis was given as the cause of death. It is obvious that without a statement as to the organ affected, a certificate so made out could not be properly classified according to the International List, which makes several divisions for the various types of tuberculosis. For accuracy the organ affected with tuberculosis should always be given.

Peritonitis as a cause of death is unsatisfactory for registration purposes. Nine certificates were returned because this term was used. Peritonitis is rarely a primary cause of death, for it is generally preceded by such conditions as perforation of the peritoneum by a wound, suppurating appendicitis, gastric ulcer, salpingitis, general infections, etc. It is these primary conditions which should be given as the cause of death.

When death is caused by conditions resulting from the enlargement of the prostate gland, the nature of the enlargement should be indicated, and it should be especially stated whether it is or is not cancerous. Nine certificates were returned in an endeavor to get the necessary information on this point. If the enlargement is due to cancer, the death should be classified under cancer; otherwise it should be classified under diseases of the prostate gland.

As with tuberculosis the use of cancer alone is not a satisfactory cause of death. For proper classification the organ affected must be indicated. This was not done on nine certificates which were returned for more complete information.

In giving meningitis as a cause of death, the form or nature of the infection causing the meningitis should as far as possible be indicated. This was not done on eight certificates.

Diseases of the urinary tract were not sufficiently defined in seven certificates to make satisfactory causes of death. In the case of pyelitis it is necessary to know the primary condition, such as the presence of calculi, infectious diseases, tuberculosis, gonorrhea, etc. It is these conditions which really cause the pyelitis and ultimately death, and so whenever possible such primary condition should be indicated. With cystitis the primary condition causing the disease is to be given. If due to an infection the nature of the infection is to be stated and also how it occurred. If such conditions exist as enlargement of the prostate gland, calculi or cancer, all of which may cause cystitis, they are to be indicated.

Marasmus is not a satisfactory term to use in stating the cause of death. In the young, marasmus may be secondary to such conditions as gastro-enteritis, prematurity, congenital defects, syphilis, etc. In the aged, it may be secondary to tuberculosis, arteriosclerosis, cancer or other chronic diseases. It is these primary conditions which should be given as the cause of death rather than marasmus. Seven certificates were returned in order to determine as far as possible the nature of the primary disease resulting in marasmus.

Seven certificates were returned because death was assigned to ill-defined conditions of the heart. When dilatation of the heart is given as the cause of death, the primary disease should be given. Of course it may be due to pneumonia, erysipelas, typhoid fever, and other infectious diseases. It may follow



operations, and in this case the disease for which the operation is performed should be indicated. If it occurs as a result of a chronic heart lesion, the nature of this lesion should be indicated. The use of such terms as heart lesion, heart trouble, heart failure, and paralysis of the heart should be replaced by a more definite characterization of the cardiac difficulty. In the case of the young, it helps in classifying if a statement is made as to whether the heart trouble is congenital or not.

In filling out a certificate, uremia should be replaced by the disease causing death. Seven certificates were returned because this was not done. Uremia is really a symptom and not a disease. If due to nephritis, which of course generally is the case, a statement should be made to that effect, and also as to whether the nephritis is acute or chronic. If uremia occurs during or as the result of pregnancy, this information is also needed for accurate classification.

As far as possible for purposes of accuracy it is very desirable that the primary disease resulting in convulsions of the young be given instead of using the term convulsions' unqualified in any way. Seven certificates were returned to get information on this point. Convulsions, of course, may be due to such conditions as gastro-enteritis, congenital defects, injuries, and so on.

In six instances no statement was made as to whether the endocarditis was acute or chronic. This differentiation is needed for accurate classification.

Six certificates were returned to gain additional information about a septicemia. Accurate classification requires that the primary disease resulting in septicemia be stated. If due to an infection the nature of the organisms causing it and the method by which the infection occurred are desired. If the septicemia results from an injury, the character of the injury, how it occurred and whether it is accidental, suicidal or homicidal, should be stated. If the septicemia is of puerperal origin, this should also be definitely stated.

Six certificates were returned to obtain additional information about gangrene. This term used alone is not a satisfactory cause of death, since it may be caused by such primary conditions as diabetes, arteriosclerosis, the results of an injury, etc. In every case the primary disease should be stated so that the death may be assigned to its proper place in the classification.

In the remainder of the paper the number of certificates returned for the various reasons will not be indicated, as the number returned for each reason is quite small.

In a number of instances the type of goiter was not indicated, and this made accurate classification impossible. An enlargement of the thyroid gland is assigned a different place in classifying, depending upon whether it is due to cancer, or fibrous conditions, or a goiter of the exophthalmic type. What has already been said concerning general peritonitis applies in the case of pelvic peritonitis, namely, that the primary disease should be given.

The nature of a congenital malformation is needed and this point was omitted on a number of certificates. In the case of rheumatism some statement is desired as to whether it is acute or chronic. Pulmonary hemorrhage is a most unsatisfactory cause of death, for it may be caused by a number of primary conditions, such as tuberculosis, traumatism, cancer, aneurism, about which some information is required before the death can be accurately classified.

In a number of cases death was assigned to jaundice, hemorrhage of the stomach, hypertrophy of the liver, anemia, pulmonary oedema, etc. The use of such terms, really symptoms, is worthless from the viewpoint of accurate statistics. The primary disease of which the above are symptoms should be definitely given in each case.

In a number of instances the dates relating to the time of medical attendance were incorrect and so necessitated certain changes. A few certificates were illegible. The remedy for this is better handwriting and more care in filling out the certificates. One certificate was made out in pencil and had to be changed, as the law requires that certificates be made out in unfading ink.

This paper has not been prepared with a hypercritical point of view, but rather to assist physicians in improving our vital statistics. It is hoped that this paper has indicated one way by which with a little more care and not much more time or trouble, this desirable object may be obtained. It is fully realized that it is frequently very difficult or impossible to make an accurate diagnosis, and when this is so, it is probably the best plan to admit frankly our inability. But many of the inaccurate, incorrect, ill-defined and indefensible ways of stating the cause of death as brought out in this paper can easily be remedied if



physicians will only take a little more pains and interest in the matter. It is to be hoped that every physician will gladly co-operate, in every way possible, as well as in the way indicated in this paper, in improving the vital statistics of Cleveland.

In summarizing this paper it may be stated that in general most of the certificates were returned for one of the following reasons: because insufficient information was given regarding deaths due to external violence; because in many instances no statement was made as to whether the disease was acute or chronic; because symptoms were given instead of diseases; because the organ affected with a given disease was not stated; because the primary disease or condition was not indicated; or because indefinite and ill-defined terms were used.

The writer wishes to thank Doctor C. E. Ford, Commissioner of Health, for the use of the official records, for his assistance, for his co-operation, and for the opportunity of assisting in classifying the death certificates, for without all these kindnesses this paper would have been impossible.

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**Full-Time Health Officers.**—The necessity of health officers giving their full time to their official functions is pointed out by J. W. Kerr, Washington, D. C. (*Journal A. M. A.*, Nov. 6, 1915). In this country he says the health service has been a plant of slow growth, stimulated mainly by epidemics. The funds appropriated have been too inadequate and the conditions all over the land have been bad. In Kansas, for instance, there were no full-time health officers prior to the present year and in Illinois, with the exception of the city of Chicago and La Salle, Peru and Oglesby, which have joined forces, there are, so far as reported, no full-time health officers at present, and only 106 paid health officers in the state, some of these receiving only \$5 a year. While local health administration should be the strongest defence against disease, it is in reality the weakest in our national resources. The federal or state governments cannot be expected to act locally except in special emergencies and normally should only exercise advisory and supervisory control as regards local matters. Authority has been dissipated and intrusted to separate boards and commissions to the damage of public health in general. It would be advisable to have more joint action between communities, several jurisdictions combining to support health officers that can give all their time, and only this will give us efficient local health administration. In Germany, he says, he found by inquiry that the imperial government, while authorized to act, had found it unnecessary because of the efficiency of the local health authorities. Recent legislation in several states is reviewed by Kerr and some progress has been made toward having efficient local health boards, especially in certain states, such as North Carolina and Massachusetts and in proposed legislation in others. Such legislation should be encouraged.

## CONSERVATISM AND RADICALISM IN SURGERY OF THE EAR, NOSE, AND THROAT

By SECORD H. LARGE, M. D., Cleveland, Ohio

I wish to use the words conservatism and radicalism not only in reference to surgical interference, but also as to the time of interference in treating diseases of the ear, nose and throat. The writer has thought that perhaps we have been too radical in certain parts of our work and too conservative in others. With this idea in view he wishes to bring this subject before you. Let us first consider the operation known as enucleation of the faucial

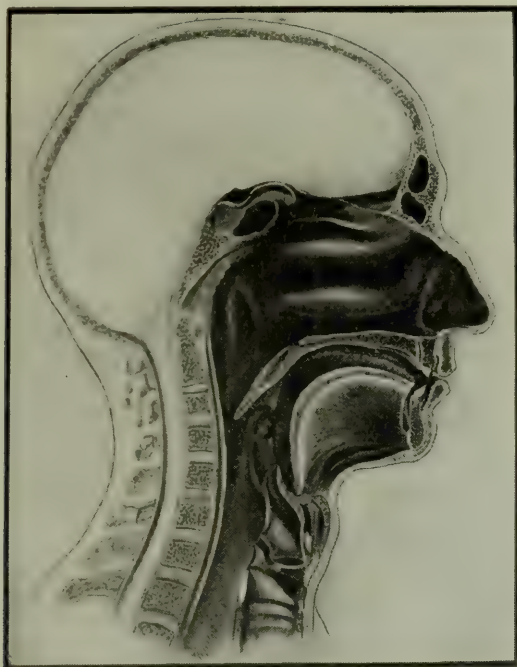


Figure 1. Section showing the relation of the mouth of eustachian tube to the epi-pharynx and the posterior ends of the turbinates.

tonsils. During the last few years these organs have been enucleated, and as some of our writers have said, mutilated by the wholesale, by all of us. The general surgeon passed through the stage of ovariectomy. We are passing through that of tonsilectomy. The general surgeon has become conservative in the treatment of the ovary and we seem to be still very radical in treating the faucial tonsils. We must stop to consider whether or not these organs whose function has never been proved satisfactorily should be sacrificed in this manner. I do not wish to convey the impression that I am not in favor of enucleation of diseased faucial tonsils; I believe it should be done, and that



radically, under surgical asepsis and in a general hospital, but I think that we should have positive subjective as well as objective signs. One of the functions of the tonsils that has been overlooked to a certain extent is their association with dentition as they become swollen and inflamed with the eruption of the teeth. Henke and Lenart injected charcoal into the gums and nasal mucous membrane and found it deposited in the tonsils, thus proving they were excretory glands. Blum, in his recent paper on "Theory of Tonsilectomy," brings out the point that adenoidectomy is generally performed at the time of tonsilectomy and it is impossible when improvement is observed to know how much of the improvement is to be attributed to adenoidectomy.



Figure 2. Polypi extending from the nasal chamber completely blocking the choanae and the opening of the eustachian tube.

He thinks tonsilectomy should not be performed in infants and only in exceptional cases before the eighth year. In these cases that are not positive, why not remove the adenoid mass and, if necessary, the tonsils at a later time. The operation of adenoidectomy is so simple now under nitrous oxide and oxygen and with the modern guillotine instead of the old Gottstein curette. The operation is performed in from three to five minutes and I have rarely seen a child complain of the soreness the following day. The old Gottstein curettes generally removed a great deal of the mucous membrane of the epipharynx, which caused a great deal of soreness.

Diseases of the epipharynx, or nasal pharynx, have been treated too conservatively, as pathological conditions in this

region cause at least seventy-five per cent of our aural diseases. Adenoids which are caused by an over-development of Luschka's tonsil, are not alone the cause of aural disease. Hypertrophy of the turbinates, especially the posterior ends, which are generally overlooked, are one of the chief causes of aural affections. In the slides which I show, you will readily see how these pathological conditions obstruct the opening of the eustachian tubes.

Surgery of the nose has become more conservative during the last few years. The complete removal of the turbinates is very seldom resorted to at the present time, unless it is the middle and that when we wish to perform a complete exenteration of the ethmoid cells. The inferior turbinate used to be removed for almost all obstructions of the nares. The submucous resection has taken the place of many operations, as the mucous membrane of the nose is thus preserved. Pathological conditions of the middle meatus, that is, between the middle turbinate and the in-



Figure 3. Hypertrophy of the posterior end of the inferior turbinate interfering with the ventilation of the eustachian tube.

ferior turbinate, give us more trouble than any other part of the nose. This region has been called the vicious circle. Into this region the antrum, the frontal sinus, and anterior ethmoid cells open, and obstruction in this part interferes with the drainage of the different sinuses. Our methods of treating colds will



have to be modified, as the complications seem to be increasing. A culture should be made in every case and those showing an influenza infection should be isolated. It is said that over 50 per cent of our empyemas of the different sinuses are due to this infection. A purulent discharge from the nose is generally treated lightly, but in the majority of cases it indicates an empyema of one of the sinuses and when neglected leads to many serious lesions.

In diseases of the middle ear, especially the different forms of otitis media, I think we have been too conservative. The delay in incising the drum membrane has been one of our greatest faults. It is a much better policy to make the incision too early than too late, as the wound in the membrane heals very rapidly where the fluid in the middle ear is evacuated. Those membranes that rupture spontaneously, as a rule, become chronic suppurative otitis media cases, which last for months and even years. We have been too conservative in our treatment of the antrum and mastoid cells. If a discharge in the middle ear keeps up longer than three weeks at the outside, the middle ear should be drained by opening the mastoid cells and antrum, and if the discharge still persists after another six weeks of conservative treatment, some form of the radical mastoid operation should be performed.

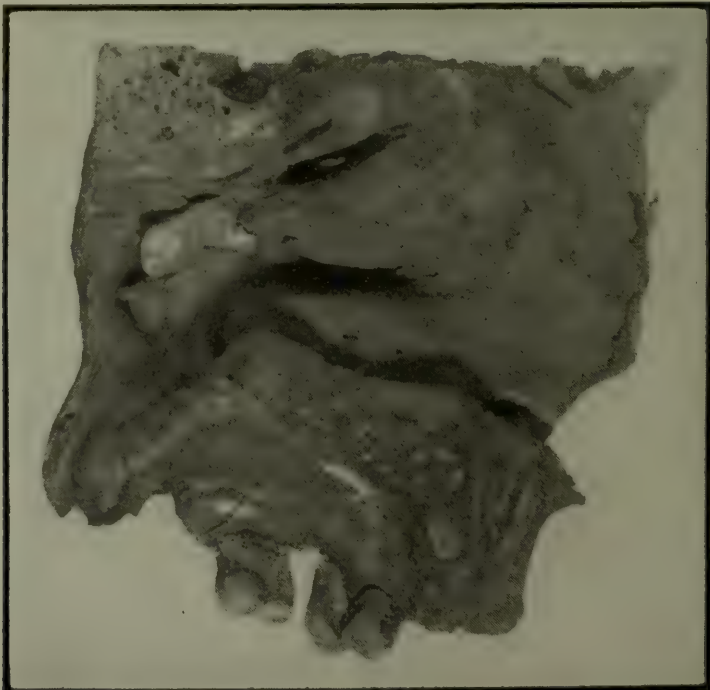


Figure 4. Hypertrophy of the posterior end of the middle turbinate blocking the opening of the eustachian tube.

In some localities examination of the hearing in school children has shown that only thirty per cent have normal hearing. I think the time is coming when we will make a yearly examination of all our patients with the hope of preventing deafness. I wish to commend the examination of all school children, but I do think that the method of examination of hearing is not scientifically carried out. Stopping the ear with the finger does not give us the relative hearing in either ear. Some form of the Larm Apparatus should be used, as this positively gives us accurate findings.



Figure 5. Polypi in the middle meatus interfering with the drainage of the frontal sinus anterior ethmoid cells, and the antrum of Highmore. There is also a large fibroma in the sphenoid sinus.

In malignancy of the larynx it is far better to err on the side of radicalism than that of conservatism. The majority of surgeons today are of the opinion that when a diagnosis of malignancy is made, a laryngectomy should be performed at once. By frequent manipulations a non-malignant tumor in the larynx may be changed into a malignant one. With the increase of our armamentarium, Holmes' Pharyngoscope, the Killian Suspension apparatus, which I have here, we are able to inspect the nose, epipharynx, the upper part of the oesophagus, larynx, trachea and bronchi just as easily as that of the oral pharynx.

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## REVIEW OF THE PROGRESS OF MEDICINE

By JOHN PHILLIPS, M. B., Cleveland

### Tests for Determination of Renal Function

One of the most striking features in the clinical studies of the past year has been the large number of investigations relating to the estimation of renal functions. Numerous functional tests have been used and their results compared, so that at present we are able to give a fair estimate of their value.

*The Water Test, Dilution and Concentration Test.* In using this test, consideration must be given to the fact that the quantity of urine excreted is diminished by sweating and diarrhoea. If 1,500 to 2,000 cc.'s of water is taken in from one-half to one hour, 500 cc.'s should be eliminated during the first half hour and the remainder in addition to the normal urinary output should be eliminated within twenty-four hours. The water elimination function of the kidney though impaired in passive congestion or acute glomerulo-nephritis, may show no deviation from normal in chronic glomerulo-nephritis.

In the late stages of glomerulo-nephritis or arteriosclerotic nephritis, the kidney has lost its ability to eliminate solids, so that even though the patient is put on dry diet for several days the specific gravity of the urine may not go above 1014. In other words, the kidney has lost its ability to concentrate—a condition of hyposthenuria. In advanced cases of renal disease the kidney may have lost its power of diluting the urine, so that despite the fact that large quantities of water may be given the kidney excretes urine of a fixed specific gravity 1011 to 1013. The power of diluting the urine is lost later than the power to concentrate.

The above tests are very simple in character and often give information of considerable value.

*Chloride Elimination.* Excluding extra-renal causes of chloride retention, such as pneumonia or cardiac oedema, we have in the estimation of urinary chlorides the most valuable means of detecting early disease of the kidneys. Normally the kidney can eliminate ten grains of sodium chloride in addition to the usual daily intake. For the method of estimation of urinary chlorides the reader is referred to McLean's article in the *Journal of Experimental Medicine*, 1916, XXII, 212.

In nephritis there is also a concentration of chlorides in the blood serum. The highest figures are obtained in those cases of nephritis which are associated with oedema. The estimation of chlorides in the blood serum, together with a comparison of the

intake and output, form a valuable method for determining slight grades of renal insufficiency.

*Nitrogen Elimination.* If a given dose of urea, about 15 grains which contains seven grains of nitrogen, is added to a standard diet this should be eliminated in twenty-four hours. Delayed nitrogen elimination is noted in glomerulo-nephritis but is absent in passive congestion or degenerative tubular nephritis. Exception to the latter is present in the tubular nephritis due to bichloride of mercury poisoning.

More important still than the elimination of the nitrogen excretion in the urine is the estimation of the non-protein nitrogen or urea nitrogen of the urine. In normal individuals the non-protein blood nitrogen ranges from 22 to 30 milligrams per 100 cc.'s of blood. Increase in the non-protein blood nitrogen occurs in the acute and final stage of glomerulo-nephritis, in the late stages of arteriosclerotic nephritis and in severe degenerative tubular nephritis. In the severer cases of these forms of nephritis the non-protein blood nitrogen may exceed 100 milligrams or even reach as high as 200 milligrams per 100 cc.'s of blood. The increase of non-protein nitrogen in the blood usually marks the onset of uraemia and hence its estimation is of great prognostic value.

*Lactose Test.* This test has been used by Schlayer and his associates for the determination of glomerular function but the test is cumbersome as the lactose must be injected intravenously and as boiling decomposes the lactose the solution must be pasteurized on three successive days. This test is not as reliable as the majority of others mentioned.

*'Phthalein Test.* This test which has now been in use in the majority of clinics for the past three years, has stood the test of time, and besides is simple and easy of application. The 'phthalein output is reduced in glomerulo-nephritis, late arteriosclerotic and late tubular nephritis. It must be kept in mind that the 'phthalein excretion is reduced in passive congestion from cardiac decompensation, and unilaterally in cases of renal calculus and renal tumor. It should be remembered, too, that recovery may occur in cases in which the 'phthalein excretion is zero.

With further clinical studies of renal function using and comparing the results of these various tests, we may be able to give accurately the prognosis in a given case of nephritis.

A complete review is given of this question in *Progressive Medicine*, December, 1915.



## CLINICAL LABORATORY METHODS

By CLYDE L. CUMMER, M. D., Cleveland.

In opening this department, it is the desire of the *Journal* to furnish to its readers a review of articles in the current literature which bear upon the subject of laboratory diagnosis or upon the rapidly growing subject of laboratory therapeutics. The general policy will be to dwell lightly upon the purely technical side and to emphasize the clinical application.

### The Examination of the Spinal Fluid

An article of unusual interest appeared recently in the *Bulletin of the Johns Hopkins Hospital* under the caption, "A Further Study of the Diagnostic Value of the Colloidal Gold Reaction, together with a Method for the Preparation of the Reagent." (Miller, Brush, Hammers, Felton. *Bull. of the Johns Hopkins Hospital*, Vol. XXVI, No. 298, Dec., 1915, p. 391.)

Those who have attempted to employ this diagnostic method realize quite keenly the difficulty in preparing a satisfactory reagent. The actual performance of the test itself is simple enough, once the reagent is at hand. The problem of preparing the reagent has received much study by the authors, who feel that they have developed a successful method. The technique is given in the most painstaking and explicit manner in their article, which should be read by one who is interested in the technical side of the subject.

The report of their findings is based upon an examination of 300 spinal fluids. These were from cases which had been studied carefully by clinical methods, and the laboratory methods employed include Nonne's four reactions (blood serum Wassermann reaction, spinal fluid Wassermann reaction, globulin determination and cell count), as well as the Lange colloidal gold test. On account of the thorough-going way in which this material has been studied, their conclusions are valuable and are so representative of the best current opinion that they are quoted here verbatim:

"(1) In the great majority of cases a normal spinal fluid produces no changes whatever in suitably standardized solutions of colloidal gold. The evidence is strongly in favor of the view that very slight gold reactions, occurring in fluids otherwise normal, probably possess no diagnostic significance. The fact that colloidal solutions in general are unusually sensitive, makes it

highly probable that these faint reactions are due to factors which the most scrupulous technique cannot invariably eliminate.

“(2) The general reactions observed in tabes and cerebro-spinal syphilis are not in themselves characteristic of either condition. As a rule, the curves are typically of the luetic type and are therefore valuable in confirming a doubtful clinical diagnosis, particularly in cases where one or more of the other reactions are negative. It is probably true that the reactions in cerebral lues vary with the type and stage of the disease. Further studies are necessary to determine the exact significance of the paretic curves observed in a few cases showing no clinical evidence of general paralysis.

“(3) The reaction type observed in cases of paresis has been so uniformly present and so characteristic as to warrant the following conclusions:

“(a) Spinal fluids from clinical case of dementia paralytica cause complete precipitation of colloidal gold in the first 4-8 tubes. Exceptions to this rule have not been observed thus far in this clinic.

“(b) The apparent specificity of this paretic reaction is further shown by its occurrence in a number of typical cases in which all other spinal fluid abnormalities were absent. One such case has been confirmed by autopsy.

“(c) The fact that a paretic curve occasionally occurs in patients who show no evidence of dementia, in no way argues against the value of this reaction. All such reactions have occurred in cases undoubtedly luetic with the exception of a few cases of multiple sclerosis above referred to; none in this series has been followed long enough to make certain the assertion that paresis will not ultimately develop. One must not lose sight of the fact that authentic cases are on record in which, “without the existence of any obvious psychosis, general paralysis was discovered at autopsy.” Other patients dying in one of the periods of remission, during which the mentality was relatively high, have shown the well marked and active pathological lesions of paresis; and, in cases of short duration, there is anatomical evidence that the disease had existed long before symptoms attracted attention to it.

“(d) The opinion is, therefore, advanced that the occurrence of a paretic reaction in a luetic individual should invariably be



looked upon as one of grave portent. For, although paresis may not become outspoken, one at least may be reasonably certain that even prolonged and intensive treatment is not apt to modify the underlying disease to any appreciable degree.

“(4) More recent and unpublished work goes to indicate that the substance or substances in the cerebro-spinal fluid which induce colloidal gold precipitation are, in part at least, dialysable. It is quite probable that this may ultimately explain reactions simulating a luetic type, which are given by spinal fluids showing no increased globulin content, but obtained from patients who undoubtedly have abnormal changes, either anatomical or functional, in the central nervous system, not necessarily of luetic origin.

“(5) Fluids from cases of purulent or tuberculous meningitis give reactions which are usually maximal in the higher dilutions. As a rule, however, careful search will reveal the tubercle bacillus in the spinal fluid before the characteristic “*Verschiebung nach oben*” develops.

“(6) The reactions given by spinal fluids from cases of suspected congenital lues are generally not sufficiently characteristic to warrant a positive diagnosis, and certainly should not be relied upon to the exclusion of other laboratory procedures. The chief exception to this statement is furnished by cases of juvenile paresis.

“(7) The colloidal gold reaction does not in any sense replace other cerebro-spinal fluid tests of known value. In certain instances it seems to possess a sensitiveness and specificity shared by none of the others. Its sources of error are few and are readily recognized; its results are for the most part clearcut and decisive; its performance requires a minimal amount of spinal fluid, and a technique of extreme simplicity.

“(8) The entire value of the reaction is dependent upon the use of a reagent suitably prepared and standardized.”

#### **Isolation and Cultivation of the Tubercle Bacillus**

The isolation of tubercle bacillus in pure culture has been a matter of great difficulty. Though the inoculation of suspected material into animals has been helpful, it is, to say the least, a time-consuming process. Petroff has done considerable work on the cultivation of the tubercle bacillus and has recently de-

scribed his methods (see the *Johns Hopkins Hospital Bulletin*, Vol. XXVI, No. 294, August, 1915). He takes advantage, as had some earlier workers, of the effect of aniline dyes upon the development of bacterial cells.

Gentian violet in a dilution of 1 to 10,000 was the dye employed. This served to inhibit the growth of all organisms except the tubercle bacilli and a few gram-positive organisms, chiefly, streptococci and staphylococci. It was found that the growth of the latter could be prevented by treating the sputum with a solution of sodium hydroxide. The medium for the purpose of isolation is prepared by mixing whole egg, veal juice and gentian violet, the resultant mixture being tubed and then sterilized in an inspissator on three successive days. His technique for isolating bacilli is as follows:

Equal parts of fresh sputum and 3 per cent sodium hydroxide are shaken well and incubated at 38° centigrade for from 15 to 30 minutes. The mixture is then rendered neutral to litmus with hydrochloric acid, is centrifugalized at high speed for ten minutes, the supernatant fluid is decanted and the sediment is inoculated into the medium.

Petroff also isolates the bacilli from the feces. Here the problem is different, since there are many spore-bearing forms which resist the action of sodium hydroxide, so the treatment with sodium hydrate is lengthened. The feces (preferably a fresh morning specimen) were collected in wide-mouth jars and diluted with 3 volumes of water mixed well and filtered through gauze to remove solid particles. The filtrate is saturated with sodium chloride. At the end of 30 minutes all bacteria will be found floating. The floating film is collected and an equal quantity of normal sodium hydrate is added. The mixture is kept at 38° centigrade for three hours, shaking frequently. Then it is neutralized to litmus with normal hydrochloric acid, is centrifugalized, and the sediment is inoculated into several tubes of media. It is to be noted that the tubercle bacillus will not continue its growth in subcultures on gentian violet media. For growing tubercle bacilli in large quantities, Petroff uses a media prepared by infusing scraped potato with distilled water. The infusion is rendered slightly acid, the starch is coagulated by heat and removed by filtration, and the resulting filtrate is placed in large, flat bottles. In this, medium growth of the tubercle bacilli takes place in the body as well as on the surface.



It is scarcely necessary to point out the clinical importance of this communication, and it is to be hoped that it will receive general attention and confirmation. Petroff states that he has isolated and cultivated the tubercle bacillus in 129 instances out of 135 specimens examined. The technique is not difficult and apparently should serve to supplement the methods at present available for the bacteriological study of sputum and feces.

The method of growing the bacillus in large quantities is so simple that it promises to render study of the various strains much more simple. A practical result might be the simple and rapid preparation "antigens" for use in the study of immunological reactions.

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**Rectal Examinations in Labor.**—R. W. Holmes, Chicago (*Journal A. M. A.*, Dec. 25, 1915), advocates the use of rectal instead of vaginal examinations in labor cases. The discoveries of the possibilities of the rectal method by Kroenig and Ries is, he says, one of the most important contributions to modern obstetric practice, and he holds that there should be a complete revision of the subject in the text-books. The danger of infection from the vaginal touch has long been recognized, while the rectal method is comparatively innocuous. While it does not at present enable us to measure the size of the pelvis, it is of great value in estimating the factors situated in the posterior half of the bony pelvis and in almost every direction under appropriate conditions it is as definitive as the vaginal method, if combined with abdominal palpation. The difficulties it offers are commensurate with those of the vaginal examination, and it is specially appropriate in those cases in which, on account of a defect of the pelvis cesarean section may possibly be called for. Kroenig found that the midwives learned the method readily. The technique is described by Holmes as follows: "The woman should be given an enema before examination. Preferably, she should be on a table, or at least she should lie across the bed in the lithotomy position, with the buttocks quite to the edge, so the gluteal groove will not be in a depression of the bedding. A sterile rubber glove should be employed, for even though the finger enters a contaminated cavity it is not good practice to use a glove which may have infective matter on it. The finger should be anointed with sterile petrolatum or other unguent, and then should be passed through the anus slowly and carefully. At the same time the other fingers should be flexed in order that they may not accidentally enter the vulvar orifice. The various movements of the fingers should be slowly made, that the minimum of discomfort may be caused. Rarely will there be any pain, even if hemorrhoids are present; in fact, the average discomfort is no greater than when a vaginal examination is made. Generally, the rectovaginal septum is so lax that the examining finger may move with great latitude. The only time I found the method positively indefinite was in a woman who had had proctitis, with secondary contraction of the wall." Vaginal examinations should be made in labor only when for some special reason the rectal indications are indefinite. His conclusions are based on his personal experience, and in his clinical instruction of the students of Rush College rectal examination is practiced nearly to the exclusion of the other methods, and students who have been thus taught in the dispensary clinics have been infinitely better placed than those who were permitted to make only a limited number of vaginal examinations in a former period.

## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

### Radium

At present radium gives evidence of becoming a most valuable adjunct in surgery and particularly gynecological surgery. As yet it has scarcely been used for a sufficient length of time to draw any final conclusions, but the increasing usage and careful reports of cases treated, with their subsequent histories, certainly merit the continued usage of this element. Radium has been used for some time in the treatment of dermatological conditions, including new growths both benign and malignant, and has in both of these types of cases proven itself invaluable, and where obtainable, has to a large extent replaced surgical measures. In this resume, however, we must limit ourselves to the application of radium in gynecology and particularly to the treatment of new growths.

It may be opportune to say just a few words concerning the physical properties of radium, which is an element obtainable in staple form as a bromide, chlorid or sulphate, and that by appropriate means, radium emanation, a gas, can be separated from the radium salts. The emanation has the advantage in that it is possible to vary the size, shape and strength of the applicator. Through glass containers radium emits two types of rays, the beta and gamma.

The beta ray is particulate matter, a negatively charged ion, entirely absorbed by 3 mm. of lead, or 2 cm. of tissue. It occurs in ten times the quantity of the gamma rays and produces much more marked biological effects.

The gamma ray is a vibration of ether of short wave length and comparable to light and the Röntgen ray. It is very penetrating, passing through inches of lead or feet of tissue.

Both of these rays give off soft, medium and hard rays, which, however, are equally absorbed by the tissues they penetrate.

Eight per cent of the beta rays are absorbed by each one-tenth millimetre of tissue and five per cent of the gamma rays by each centimetre of tissue. The gamma rays can be used alone by filtering out the beta rays with a 2 cm. lead screen or a 1 mm. platinum screen placed between the radium and the part treated.



The intensity of radiation varies with the square of the distance from source to tissue treated. One millegram, at one millimetre, for one second, on one square millimetre is the unit of dosage.

All types of fibroid of the uterus have been treated with radium with most gratifying results. Kelly (*Surgery, Gynecology and Obstetrics*, 1915, XX, 271), reports a series of cases treated since March, 1913. The method employed was to insert into the uterine cavity from 30 to 724 mg. of radium in a suitable container, with protective filters of platinum, glass and rubber. The length of the treatment depended on the size and location of the new growth. Irrespective of size, the tumors either disappeared entirely or decreased markedly in size. The patients were relieved of the pressure symptoms where they existed and the menorrhagia and metrorrhagia which was frequently the symptom for which the patient sought relief, was invariably relieved, usually by a complete cessation of bleeding and not infrequently followed by the usual symptoms of the menopause. It is suggested that to overcome this feature a large dose be given over a shorter period of time.

The crystallization of this and other work on the subject is, that radium therapy should always be considered when available, and when the patient is a poor operative risk, should invariably be employed.

Recently Kelly (*Jour. Am. Med. Ass.*, 1915, LXV, 1874) has put before us some most encouraging results in the treatment with radium of carcinoma of the uterine cervix and vaginal wall. The cases inoperable when first seen vary with locality and surgeon consulted. Kelly has 43 per cent and Wertheim 50 per cent inoperable cases. In the best hands not over 25 per cent are permanently cured.

Kelly's present conclusions are based on a series of 213 treated cases of vaginal and cervical carcinoma, of which 199 were inoperable, primary or recurrent when first seen, and 14 operable. These cases were seen between 1909 and 1915, though only to within 18 months of the latter date were all operable cases radiated before operation.

The ideal radiation is a homogeneous and equal one throughout the entire affected field, and extensive experience is necessary to accomplish this end without damaging the normal tissues which vary markedly in their resistance.

The most frequent injuries due to over exposure are vesico-vaginal and recto-vaginal fistulae, which Kelly and Burnham have

avoided in all their more recent cases, but with which Schmitz (*Jour. Am. Med. Assn.*, 1915, LXV, 1879) has had particular trouble.

This method of killing the malignant cells without injuring normal tissues would seem to depend upon the greater sensitiveness of the former to the radium rays. It has been demonstrated that not only do tissues, normal and abnormal, in the same individual, vary in sensitiveness, but that these tissues vary in sensitiveness in different individuals.

The plan of treatment at present is to give the first radiation at a single dose, followed by a pause of about six weeks, during which time the patients are examined weekly. Most of this type of tumors begin diminishing within two weeks, some in a few days, and continue decreasing in size for five or six weeks. If six weeks after the first radiation the growth has disappeared completely, which is not infrequently the case, four weeks more should pass before a second radiation is given. If the growth is not gone within six weeks a second radiation is given immediately, and within a month following this, all growths which are going to yield to this treatment have disappeared.

Where radium radiations are to be supplemented by surgical removal of the tissues affected, the time to operate is after the local evidence of the growth has disappeared or has had two radiations with or without local improvement.

Where apparently complete disappearance has been affected by one or two radiations, the patient should be radiated every several months for the next year or two in order to make assurance doubly sure, as an occasional case has been seen to recur after apparently a complete radium cure.

More recently the local growth has not been curetted or cauterized prior to radiations, and the results have been as satisfactory as when these procedures were carried out. Neither the extent of local involvement or the pathological type of the growth seem to affect the result. It is impossible at present to predict what the effect of radiation will be in a given case. Excellent descriptions of the histopathologic changes were given by Hanse-mann (*Berl. klin. Wochnschr.*, 1914, No. 23, 1046) and Haendly (*ibid*, 1914, No. 2, 86), also by Schmitz (*Loc. cit.*).

A brief summary of Kelly's results are as follows: Of 14 operable cases, 10 patients were operated on and treated with radiations. Of these, 2 are well for more than three years, 1 for



two years, and 4 for more than a year. Of the 199 inoperable cases, 53 are clinically cured, 109 much improved and 37 not improved. The cured cases include 35 cases of originally inoperable cervical and vaginal carcinomata, of which 2 are well after four years, 2 after three years, 4 after two years, and 17 after more than one year. This series also included 18 cases of originally inoperable recurrent cancers of which the patients are now cured.

When we consider that 50 per cent of all cases are inoperable when first seen, and that 75 per cent operated have recurrences, 60 per cent of which occur within one year, these results are certainly indicative of a marked advance in the treatment of such cases.

The difficulties of radium therapy are many. In the first place the radium salts are very expensive, at present worth about \$120.00 a millegram. As a working amount for such cases as mentioned is not less than 200 millegrams, there is a necessary outlay of \$25,000.00. Prolonged and extensive experience is necessary to get the best results, as well as to avoid the not infrequent accidents such as fistulae, ulcer, chronic diarrhoea, infection and even death. As Ordway (*Jour. Am. Med. Ass.*, 1916, LXVI, 1) has clearly pointed out, the operator may suffer by unwisely handling the element. His observations are summarized as follows: "Local objective changes consist of flattening, thickening, and scaling of the superficial layers of the skin and even atrophy and intractable ulceration. The most marked symptoms are subjective, consisting of parasthesia, anesthesia, tenderness, throbbing, and even pain. The persistence of such effects is noteworthy."

### The Midwife

At the sixth annual meeting of the American Association for the study and Prevention of Infant Mortality, held in Philadelphia, November 10-12, 1915, the subject of the "Midwife" was thoroughly discussed.

The science of obstetrics has not been materially advanced during the last few years. No material progress has been made throwing new light on the many complex and intricate problems which today confront the expert obstetrician. However, much had been done to lessen the danger of the productive function of woman-kind, and also in lowering infant mortality. This has been brought about by marked development and progress in ante-

natal care, which has been championed by several widely known institutions and has been brought about through closer observation of the prospective mothers by the obstetrical clinics and the antepartum visiting of these women by the instructive visiting nurses. Infant mortality has been markedly reduced by these measures and a greater percentage of children have been turned over to the pediatrician, who, by improved methods of feeding, an increased supervision, milk depots, visiting nurses, etc., has made wonderful progress in decreasing the death rate of young children.

This is somewhat of a digression from the subject, but it is such a fascinating topic and so closely allied that one finds it difficult to refrain.

In discussing the midwife we must consider several questions. In the first place, what is best for the women and children she serves, her retention and education or her abolition? Secondly, what necessity is there for such an attendant? Thirdly, is such attention as is now given by these women satisfactory or should it be improved?

Let us take up these questions in their reverse order. To any one who has had intimate acquaintance with the character of work done by these attendants it is quite evident that their work is not satisfactory. In the great majority of cases they are ignorant of the subject and uneducated, yet they are sharp enough to hide such facts from those they serve, otherwise they would have suicided their practice long ago. To improve and educate such women as the average midwife, is, considering what one has to build on, an impossibility. The supervision of licensed midwives as attempted in Pittsburgh, Buffalo and Providence, which system is in vogue in England and New Zealand, can be but partially satisfactory and is a tremendous undertaking. The Washington University Hospital, St. Louis, has opened a school for midwives, though unless they make their requirements for admission practically on an equal with those for a nurses' training school, I can see but little to be accomplished excepting the perpetuation of the midwife.

It is quite true that fully 40 per cent of confinements in this country are attended by midwives. Because this is the case is no reason that it is a necessity. There are more than enough doctors to attend all confinements, unquestionably so, if more and more women can be induced to go to maternity hospitals. It is



true that severe though warranted criticism has been made of the average physician's obstetrical work, which is said to be little if any better than that of the midwife. It must be remembered, however, that the past few years have seen a pronounced improvement in medical schools and their attendants, and the time is not far distant when such statements will not longer be possible. The average physician of the younger generation will be a far better trained man than his predecessor. The scientific obstetrician will replace the "man midwife" and the reproductive woman will benefit thereby.

It will have to be admitted that the woman before, and in labor, can be better cared for by a well educated, scientific obstetrician than by the midwife, irrespective of how she may be licensed, regulated or supervised, and therefore, so far as the mothers of the future are concerned, the midwife had better be eliminated, and that as soon as possible. How this is to be accomplished is one of the problems to be solved in raising medical standards to benefit all humanity.

The majority of the employers of midwives are of the lower class of foreigners who have come to this country with such practices firmly imbedded, and so long as the midwife exists they will continue to employ her. These foreigners, however, have never been found to lack readiness to adopt American customs whenever it has been to their material advantage, particularly when there are no other substitutes for their native customs. Why then not abolish the midwife entirely and at once? I doubt whether our hyphenated Americans will either cease to reproduce, return to their native country for their labors or discontinue to emigrate to our states, due to the fact that we have no midwives.

How are these peoples of large families and small incomes to be cared for? It is self-evident that they cannot afford even minimum fees for adequate attention in the hands of specialists, or even well trained physicians. Industrial insurance is well worked out in many states. In many European countries a woman is forbidden to work so many weeks before or after a labor, and not only is she provided medical attention at the time of labor, but she is reimbursed, dependent on her earning power, for the time lost at such an occasion. New York, Massachusetts, Vermont and Connecticut are the pioneers in somewhat similar protective legislation in this country.

It would not seem beyond the realm of possibility, and it would be an invaluable economic asset, could such legislation become general throughout the United States. Such legislation would necessarily be developed gradually by individual states. Since in this country the parturient woman is not usually a wage-earner, especially after acquiring a family, it might be suggested that the first step in such protective legislation would be to provide adequate medical attention during pregnancy, at the time of labor and during the puerperium. This could be done by the state employing full-time qualified physicians for the congested districts and allowing a given amount to physicians for the care of each case in the more sparsely settled districts, or the latter arrangement could be made to cover all cases. The attending physician would be required to give a stated amount of attention and keep careful records of all cases which would be filed before payment for the case was made. These records would soon become valuable from a statistical standpoint and also in determining the weak points of the profession for teaching purposes.

The maximum income which would allow of such state benefit, whether or not the recipient should carry compulsory insurance for such an emergency, the amount to be paid in salary or per case for such medical services, etc., are all points that demand further consideration, but I feel confident that eventually some such plan will be worked out to the benefit of all concerned.

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**Purpura Hemorrhagica.**—H. W. Emsheimer, New York (*Journal A. M. A.*, Jan. 1, 1916), reports a case of purpura hemorrhagica in a 5½-year old boy in which, after failure of other treatment, the use of whole blood injections of human blood into the muscles brought about rapid improvement and recovery. He remarks on the difficulties of transfusion and serum injections to supply the deficiency of blood platelets in this disease, as the material cannot be used in sufficiently fresh condition, owing to the need of preliminary agglutination and hemolysis tests in the former and of centrifugalizing in the latter. These disadvantages may be obviated in selected cases by immediate subcutaneous or better intramuscular injections of whole blood. Although not the first time this method has been successfully used, the records of previous trials in this particular disease are rare. Emsheimer gives a review of the published cases that have come under his observation, and offers the following conclusions: 1. The best methods of treatment of purpura hemorrhagica, in addition to the usual measures are: (a) subcutaneous or intravenous injection of human blood serum; (b) transfusion, and (c) intramuscular injection of whole fresh human blood. 2. The intramuscular injection of whole blood is a simple, harmless, effective procedure, and should be employed before other radical measures in all cases of severe purpura hemorrhagica; it may also have a wide field of usefulness in hemophilia and other blood diseases; in bleeding from various parts or organs of the body; in wasting diseases, and in many infections.



## NEUROLOGICAL REVIEWS AND CASE REPORTS

By T. S. KEYSER, M. D., Cleveland, O.

*Syphilis of the Central Nervous System, and Its Intensive Treatment.* Foster Murray. *Long Island Medical Journal*, Vol. X, No. 1, p. 9.

The frequency of involvement of the central nervous system during secondary stages, indicated by examination of the cerebro-spinal fluid, is pointed out by reference to the researches of Ravnut, Altman and Dreyfus, and Gemmerich, who obtained positive findings 70%, 80%, and 90%, respectively, of the patients examined.

In cases of syphilis meningo-vascularis, intravenous treatment is quite efficient. This conclusion is in full accord with the opinion of Head. In cases of syphilis centralis the lesions are not directly of haemotogenous origin, but probably of lymphatic origin. The choroid plexus presides over the lymphatic supply of the central nervous system (?), and does not permit the passage of salvarsan from the blood to the sub-arachnoid space. Therefore the drug does not act on the lesions in the parenchyma of the brain or cord. The author naturally concludes that salvarsan must be introduced directly into the subarachnoid space to have any effect on such cases.

He employs the Swift-Ellis method supplemented by mercurial injections and potassium iodide by mouth. The salvarsan treatments are given every two weeks, some cases receiving as many as ten injections.

The author claims that the results obtained clinically are "encouraging"; serologically most variable. The clinical results are, gain in weight and strength, decrease of pain, improvement of ataxia in early cases, "control" of headaches and vertigo, much relief of paraesthesias, cure of constipation and vomiting, and improvement of early bladder disturbances and sexual power.

As I have given over seventy intraspinous injections according to the Ogilvie method, which method is doubtless much more scientific than the Swift-Ellis, without obtaining any definite improvement in any patient treated, I feel very sceptical of results claimed in this article. All of these cases, however, had first received thorough treatment with mercury and intravenous salvarsan. In order to prove that intraspinous treatment is effective,

it must be preceded by intravenous treatment, which will practically relieve all symptoms of meningo-vascular origin. (Head, Collins, *et al.*).

The first case described is the "star" patient of the author. However, the marked improvement is absolutely due to the intravenous salvarsan and mercury, for it is plainly a case of pure meningo-vascular syphilis, and the patient had received no previous treatment. That it is not syphilis centralis (tabes) is shown by the fact that the reflexes were normal, pupils normal, and Wassermann negative after the first treatment. The presence of ataxia is not pathognomonic of tabes.

The second case is one of luetic lateral sclerosis with no other symptoms other than paraplegia mentioned in the history, yet, after ten treatments, the author states: "Clinically, he has improved in every respect *except* in the matter of walking"! The Wasserman was two-plus in blood and spinal fluid before treatment was started and four-plus after the ninth treatment.

The third case is one of tabes dorsalis with additional meningo-vascular symptoms, as shown by the presence of ptosis several years previously which had cleared up on K. I. She had received no salvarsan or mercury before the intraspinous treatments were given, so the improvement could be entirely due to the intravenous injections of salvarsan.

The fourth case, although diagnosed tabes dorsalis, is quite apparently cerebro-spinal syphilis. Tabes does not begin suddenly with headache, loud ringing in the ears, vertigo, staggering gait, and awkwardness in the use of the hands. These symptoms all point to a vascular lesion in the vestibulo-cerebellar apparatus. The marked improvement and fact that the Wassermann became negative confirm the diagnosis of meningo-vascular syphilis. The results cannot be credited to the Swift-Ellis treatment for the reasons given above.

The remaining four cases are open to the same criticisms as the above.

From this examination of the cases reported it is perfectly evident that no benefit whatever can be credited to the intraspinous part of the therapy.

The conclusions of Head that meningo-vascular syphilis is readily cured or greatly relieved by intravenous salvarsan and mercury, while syphilis centralis is not, is clearly shown in the results obtained by the author.



*Drainage of Cerebro-Spinal Fluid as a Factor in the Treatment of Nervous Syphilis. Gilpin and Early. Journ. A. M. A., Vol. LXVI, No. 4, 1916.*

On the hypothesis that salvarsan and mercury are not found in the spinal fluid because the pressure of the spinal fluid and blood of the venous sinuses and capillaries are equal, therefore the drugs do not pass *by osmosis* from the blood to the spinal fluid, the authors advocate the lowering of the pressure in the spinal fluid by frequent lumbar puncture. The complete misconception of the phenomena of osmosis shown by the above hypothesis is most patent. In the first place, osmosis consists of the diffusion of water through a membrane and not of substances (salvarsan) dissolved in water; secondly, the water diffuses through the membrane from the fluid which does not contain the dissolved material to the fluid containing the substance in solution. According to the laws of osmosis, therefore, the water of spinal fluid would pass through the capillary walls into the blood, increasing the pressure of the blood above that of the spinal fluid to exactly that amount which the dissolved substance would exert if gasified at the same temperature without change of volume. All a reduction in the pressure of the spinal fluid would accomplish would be to possibly decrease the amount of spinal fluid which would diffuse into the blood.

However, on this hypothesis, patients are subjected to a bi-weekly lumbar puncture and 20-40 cc. of spinal fluid removed while regular treatment with mercury and intravenous salvarsan are carried out.

The result obtained in the first case reported is very good, really remarkable for a case of general paresis. It probably would be very embarrassing to the writers to be asked on what ground the diagnosis is based. The history alone suggests cerebral meningo-vascular syphilis, while the fact that the Wassermann in the spinal fluid was negative on six occasions practically excludes general paresis. The recovery confirms the diagnosis of cerebral syphilis.

The second case is called tabo-paresis, but many features, including cranial nerve involvement, definite insight regarding his condition, high cell count, and marked improvement, suggest rather the diagnosis of tabes combined with cerebro-spinal syphilis.

The third case is one of tabes and showed marked improvement under treatment.

The criticisms of the article, especially of the diagnoses, is made solely for the purpose of showing how prone all of us are to draw conclusions without adequate consideration of the facts in hand. The leading neurologists and psychiatrists all emphasize the difficulty of distinguishing general paresis and cerebro-spinal syphilis. Head, in his article in *Brain*, states that frequently the therapeutic test is the only means of distinguishing the two conditions.

The only way in which any conclusion can be reached in regard to the advantage of the form of treatment described in this article would be to first submit the patient to a thorough course of mercury and intravenous treatment, after which further improvement by the "drainage method" might give some idea of its therapeutic value.

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*The Blastophthoric Effect of Clinical Lead Poisoning.* C. A. Weller. *The Journal of Medical Research*, Vol. XXXIII, No. 2, p. 271.

From a series of experiments on guinea-pigs, the author draws the following conclusions:

1st.—In chronic lead poisoning there is a definite blastophthoric effect. In the male it manifests itself in some instances by sterility without loss of sexual activity and in the offspring by a reduction of about 20 per cent in the average birth weight, an increased number of deaths in the first week, and a general retardation in development.

2nd.—The offspring of a lead poisoned female are underweight at birth and are frequently still-born.

3rd.—From the apparent recovery of reproductive power some time after stopping the administration of lead it seems that the deleterious effect must be borne especially by that portion of the germ plasm which is undergoing maturation and not by that which is stored as undeveloped germinal epithelium.

For the effect of lead poisoning on the human offspring the reader is referred to the editorial on page 2242 of the *Journal of the A. M. A.* for December 25, 1915.

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*A Case of Paget's Disease (Osteitis Deformans), with a Note Upon the Pathology.* Geoffrey Jefferson. *The British Journal of Surgery*, Vol. III, No. 10, p. 219.

The feature of special interest in this article is the emphasis of the role which the internal secretions probably play as an etio-



logical factor. The fact that the parathyroid, thyroid, and pituitary glands influence the metabolism of the bone-salts has been quite fully established. Da Costa, in the *Journal of Biological Chemistry* for March, 1914, recounts the results obtained in an investigation of the metabolism of the bone-salts in two cases of Paget's Disease, in which there was a marked retention of calcium, magnesium and phosphorus, and a pronounced loss of sulphur. Harbitz and Molineus found small tumors of the parathyroids in four cases of osteomalacia, a disease which, together with osteitis fibrosa, is surely closely related to Paget's Disease.

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*Le Réflexes D'Automatisme Dits De Défense. Pierre Marie et Foix. Revue Neurologique, An. XXII, No. 16, p. 225.*

The automatic reflexes considered in this article are five in number:

1. The flexion reflex.
2. The extension reflex.
3. The crossed extension reflex.
4. The homolateral rythmic reflex.
5. The contralateral rythmic reflex.

Clinically these reflexes have all been obtained in various patients by superficial or deep stimulation of the various parts of the lower extremities and occasionally by stimulation applied to the shoulder, neck, or face.

The principal object of the author is to show that these phenomena are not defense movements but are due to the automatic functions of the spinal cord. A great many experiments on decerebrated animals are referred to to show the existence of such automatic spinal functions. The movements occurring in man are related especially to the walking reflex. The crossed extension reflex in which there is flexion of the leg on the side stimulated and extension of the opposite side, and the contralateral rythmic reflex in which there is an alternating flexion and extension of both legs in reverse order, are quite similar to the co-ordinated movement of the muscles in walking. As in the spinal animals in which automatic stepping, standing, walking, running, and other more complicated reflexes occur, so in man, similar though less definite, automatic steppage reflexes occur.

These reflexes are seen in cases in which there is some lesion in the cerebro-spinal motor tract, that is, the hemiplegic and paraplegic syndromes.

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# The Cleveland Medical Journal

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MONTHLY

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Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

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## EDITORIAL

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### BENJAMIN L. MILLIKIN

The medical profession of Cleveland again has suffered a great loss in the death of Dr. Benjamin L. Millikin, for many years a leading ophthalmologist of Cleveland and for more than thirty years an eminent member of the medical profession.

Dr. Millikin was born at Warren, Ohio, December 24, 1851, thus having attained the age of sixty-four years at the time of his



decease. After graduating from Allegheny College in 1874 and from the Medical Department of the University of Pennsylvania in 1879, he pursued post graduate courses abroad. Returning to this country, he served as resident physician in the University of Pennsylvania, later in the Philadelphia Children's Hospital and finally in the Wills Eye Hospital of the same city before coming to Cleveland to render the splendid service of his more mature years.

In 1883 he became Professor of Diseases of the Eye in the Medical Department of Western Reserve University and was Professor Emeritus at the time of his death. He served as Visiting Ophthalmologist to St. Vincent's Hospital in 1884 and to the Lakeside Hospital from 1892 to 1912, being Senior Visiting Ophthalmologist to Lakeside Hospital from that date until his decease. In 1900 he was made Dean and Executive officer of the Medical Faculty of Western Reserve University, retiring from this appointment in 1912. With his co-workers on the faculty, he gave a splendid service during these years of marked development in both hospital and medical school, raising the standard of scholarship so that entrance to the medical course depended upon college graduation, and raising the endowment of the medical department ten-fold during these twelve years.

Doctor Millikin was for many years actively interested in the Cleveland Medical Library Association, his wise and kindly advice being a very considerable factor in its successful development. He was President of the Library for two years, filling this position at the time of his death.

Doctor Millikin died January 8, 1916, being survived by his wife, Julia Severance Millikin, and five children.

The following resolutions were passed by the Cleveland Medical Library Association upon the death of Doctor Millikin:

"Moved by deep sense of personal loss in the death of Dr. Benjamin L. Millikin, his colleagues in the Cleveland Medical Library Association unite in extending heartfelt sympathy to his family in their sorrow.

"His family, his relatives and his intimate friends are deeply stricken in his removal from life and with them the widest circles of the community suffer from the cessation of his manifold activities and the loss of his personal influence, exerted through example and continuous effort for the good of all.

"Coming to this city without acquaintance, his thorough training with his character of sterling worth, brought him soon into recognized pro-

fessional prominence. Throughout the over thirty years he spent in Cleveland he was always active in the promotion of professional betterment and many developments of importance were successful in large part because of his efficiency, and of the wisdom of his counsel and foresight.

"Active among the earliest movers for the establishment of this Library, Doctor Millikin has always been among the foremost workers in its behalf, and to his wisdom and devotion much of its accomplishment is due. For the past two years he was President of the Library Association and in this office he showed the breadth of view and judicial fairness to all men and to all opinions which characterized his activities throughout his life.

"His high attainments and the well-merited professional and public confidence, bestowed on him in fullest degree, in no wise altered the kindness of his nature, nor caused him to assume any other than the most courteous and modest attitude in his official or personal contact with his colleagues or with any one of any station.

"The profession in which he so faithfully and successfully worked and this Association for which he so generously and freely gave of his counsel and energy are indebted to him not alone for the result of his efforts but for the kindly and considerate spirit in which he lived with us, and for the steadfast and quiet helpfulness he exemplified.

"These words inadequately expressing our honor and esteem are to be sent to his family and to be inscribed upon our records.

(Signed) "JOHN P. SAWYER,  
"F. E. BUNTS."

Resolutions adopted by the Faculty of the School of Medicine of Western Reserve University:

In the death of Dr. B. L. Millikin the Medical School of Western Reserve University has lost one of its most valued friends and loyal workers, whose unselfish labors in the cause of medical education did much toward raising the school to the position it now occupies.

Eminent as a practitioner of his chosen specialty, his election to the chair of Ophthalmology in 1893, gave him an opportunity of aiding in the conception and execution of plans for the development of the institution, particularly in raising the requirements for admission and in lengthening the course of instruction. Subsequently, in the office of Dean, which position he filled for twelve years, his sound judgment, high ideals and broad views of the needs of modern medical education, gave his counsels much weight, and he was instrumental in accomplishing a great deal for the progress of the school.

The medical faculty desires to express its high appreciation of Doctor Millikin's services and of his character as a man, and extends to the bereaved family its heartfelt sympathy in their loss.

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### ALVIN SCOTT STOREY

The recent death of Doctor Alvin Scott Storey came as a great shock to his many friends and associates in the medical profession, and was particularly tragic in that his life was cut off at the early age of thirty-eight years.

Dr. Storey was born in Erie, Pennsylvania, March 23, 1878. His early boyhood ambition to be a physician was one never lost sight of and it was realized only by the most continuous devotion to work, as a boy in the shops and steel mills, and later in working at the same time that he was winning both his Literary and Medical degrees.

Dr. Storey graduated from the Medical School of Western Reserve University in 1902, having received his A. B. from Volant College, Volant, Pennsylvania.

For ten years he engaged in the general practice of medicine, during this period giving much time to study and work with the X-ray in which he was greatly interested. Two years ago he gave up the general practice of medicine to devote all of his time and energies to radiography, entering upon the practice of this specialty with a broad experience and splendid equipment.

At the time of his death Doctor Storey was in active service at the City Hospital, was a member of the staff of the Lutheran Hospital and an honorary member of the Lakeside Hospital Medical Society. He was chairman of the Civic Committee of the Cleveland Academy of Medicine, a member of the Cleveland Medical Library Association and of the Clinical Club.

Dr. Storey's friends and intimates all testify to the splendid and inspiring qualities of his character and friendship, and to the constructive type of help and interest he gave to all things professional. It is also their expressed regret that he could not have lived to reap somewhat of the material rewards in sight after years of arduous work.

Dr. Storey died of lobar pneumonia, January 11, 1916, being survived by his wife, Aurilla Hull Storey, and one daughter.

The following resolutions were passed on the death of Dr. Storey:

By the Cleveland Medical Library Association—

"In the death of Dr. Alvin S. Storey the members of the Cleveland Medical Library Association feel that they have lost one of their most valued colleagues and join in offering to his family their sincerest sympathy. His life showed that the highest ideals may be maintained in the struggle for preferment and leadership in our profession, and the gentle dignity of his nature commanded the sincerest respect and affection of all who knew him and his work.

"The Cleveland Medical Library Association, therefore, directs that this resolution be spread upon its records and that its Secretary forward a copy to his family and *The Cleveland Medical Journal*.

(Signed) "RALPH UPDEGRAFF,

"JOHN P. SAWYER,

"F. E. BUNTS."

By the Cleveland City Hospital Staff—

"In view of the sudden and tragic death of Dr. Alvin S. Storey, we, the members of the staff of the Cleveland City Hospital, desire to place on record an appreciation of the great loss sustained by the City Hospital of a faithful co-worker, and also to express our greatest sympathy to his family in their bereavement.

"In Dr. Storey's death not only the hospital but the community at large has lost a most devoted and inspiring character, a man of the greatest usefulness and the highest purpose, beloved by everyone with whom he came in contact."

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**The Weakness of the Strong.**—*The Journal of the American Medical Association* has repeatedly called attention to the dangerous trend of modern competitive athletics, especially to the effect of such competition on the heart. "The sudden death last week from pneumonia of a famous all-round athlete," it says, "is sad confirmatory evidence of the basis for such warning. The ordinary man attacked by dread pneumonia has a 'fighting chance'; the great athlete whose heart has survived the battering wear of strenuous athletic struggle falls a sudden victim to the attacks of this 'captain of the men of death.'"

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Headache:** In the *New York Medical Journal* for January 1st, Wolf Freudenthal discusses the question of headache in its relation to affections of the nose and throat. He acknowledges that here we may encounter many difficulties, as pathological conditions in the nose are so very frequent and as the grossest lesions may exist without a sign of headache. In his daily routine of rhinological work, however, he encounters a certain number of patients who are permanently relieved of headaches. He classifies headaches into: (1) Such as are due entirely to nasal or nasopharyngeal discharge; (2) those produced by several factors, one of which is situated in the nose or throat. As a general rule it may be said that when headache is present on awaking, this speaks in favor of its nasal origin. When it occurs later in the day, after using the eyes a great deal, it may very probably be attributed to some ocular affection. If cocainization of the nose diminishes the headache, its nasal origin is the more likely, and this is also the case if it increases when certain diseased areas are touched with the probe. But these tests are not always positive evidence. As to producing headache, almost every pathological condition in the nose is apt to be a cause. Examination of the nose should never (he says this emphatically) be neglected in intractable headache in any form. In fact, in his experience the majority of these patients had been treated for biliousness, dyspepsia and all sorts of things long before they finally consulted a rhinologist. Many a so-called bilious headache can be cured by removing intra-nasal pressure. As to the situation of the pain in disease of the various sinuses; it must be said that no definite localization is possible, excepting perhaps in acute frontal sinusitis. In acute cases, headache is always more pronounced. To make a diagnosis as to which one of the sinuses is affected from the site of the pain would be a mistake, as it is by no means a sure sign. Patients with chronic affections of the sinuses may never complain of headache, in spite of advanced changes in the mucous membrane. In other cases headache is the predominant symptom. When present it is generally severe in the morning and improves as the day goes on, i. e., the more pus the patient is able to get rid of the easier he will feel, or immediate relief may be obtained when his sinuses are washed out by the physician. It has been his experience, time and again, for example, that the distinct pain at the inner angle of the eye disappears immediately. In some cases, however, other conditions exist and therefore the regulation of diet, manner of living, etc., ought to be tried before an operation is resorted to, which may thus sometimes be avoided. There is no doubt that sometimes the patient does not derive relief from an intranasal operation, and his headache is as bad as ever, and it may be difficult to decide whether an operation ought to be performed.

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**Drugs:** *The Medical Review of Reviews* presents in its January number a symposium on drugs, one hundred and seven professors and physicians of prominence giving lists of the five most valuable drugs in the materia medica. Of the chosen five opium heads the list receiving 102 votes out of 107, and in 60 instances it was named first. Mercury came second, receiving 94 votes. Mercury was named almost exclusively, and arsenic was named largely, on account of their influence on syphilis. Several of the contributors indicated this, as for instances. O. T. Osborne "arsenic," because it is a specific for the widespread terrible infection of syphilis. Mercury because it completes the cure of syphilis and largely prevents the sad and regrettable hereditary transmission of that disease. To these drugs must be added several of the votes of the iodides, for of course potassium iodide was frequently named on account of gummata. Cinchona received 85 votes. If the uncertain action of many drugs has caused more than one physician to vow that he would abandon his profession, the reliability of quinin

in indicated conditions, makes practice a pleasure. Digitalis—70 of the contributors named digitalis for the same reason that prompted Oliver Osborne to do so—because a large number of individuals would be helpless and incompetent without it; with it a large proportion of such individuals become active and efficient.” Iodin received 35 votes, and as the uses for this drug are constantly increasing, a similar symposium in a decade from now might bring in double the number of votes. These then—opium, mercury, quinin, digitalis and iodine—are the five most valuable drugs in the *materia medica* as chosen by 107 of our medical mentors.

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**Rheumatic Fever:** Beverley Robinson in the *Medical Record* for January 1st considers the treatment of rheumatic fever.

In the treatment of rheumatic fever, despite all the advances of knowledge during the past few years, we have not improved upon the use of the salicylates. It is true we no longer regard them as specifics, but we have as yet no other agent which relieves acute pain of the affected joints so rapidly and considerably. In addition, when the fever is high, and maybe threatening, they lower it at the same time. But the salicylates are objectionable frequently. In view of this fact, it has seemed well to stop their use by the mouth at times, and give them either by the rectum as injections, or hypodermically through the veins. They cause irritation and swelling when given subcutaneously. To obtain the best results intravenously, a small, sharp needle should be used, and chemically pure salicylate of sodium is preferable. The dose may be ten to twenty grains in a 20 per cent solution, and the injection repeated in twelve hours, or three times in twenty-four hours, if required. With proper care as to local sterilization by painting with tincture of iodine there are no untoward sequels. In spite of Doctor Conner's experience, however, he would favor, if he abandoned giving a salicylate by the mouth, the use of it by the rectum. A preparatory soapsuds enema is all that is required before the solution of the salicylate is injected. The amount of the salt dissolved in a few ounces of water, with the addition of fifteen minims of tincture of opium, may be as much as two drams, and the injection may be repeated, if required once again, in twelve hours. The amount of the salicylates to be given intelligently will depend upon the view we have of their action and of the effects produced. To some who regard them as specifics in rheumatic fever, large, frequent doses are essential to obtain good results. To others, who still regard them only in a measure as specifics, such doses are not desirable and the best results are obtained when ten to twenty grains of the soda or ammonia salt are given by the mouth every three or four hours. He personally shares the latter view, and also believes it well to combine with their use an equal amount of bicarbonate of soda either with the salicylate or given between. He prefers the ammonium salt to the soda in the same dose. When the joint pains have diminished, he greatly prefers salicin to any other salicylate. He gives it frequently and in relatively large doses ten to twenty grains every two hours without any attendant risk. Whenever the heart is weakened or slightly dilated and a murmur exists, this alkaloid is especially valuable. He prefers in the treatment of rheumatic fever, as the best combination internally, salicylate of ammonium five to ten grains, phenacetin one to two grains, caffeine one-half to one grain, every two to three hours in two capsules at the beginning of an acute attack. Later every three or four hours.

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**Migraine:** W. W. Kahn, in the December number of *American Medicine*, criticizes a recent assertion that migraine is dependent upon faulty secretions of some yet to be determined glands. Migraine or hemicrania is the misnomer for the functional disease characterized by periodic headaches, usually followed by nausea or vomiting and ending in partial or complete relief. The periods vary in different patients. The attacks may return almost daily, perhaps even once or twice a year. They may last half an hour or a week, and their intensity may vary



as their periods and durations. His conclusions are: 1. The most constant symptom of migraine is headache, with or without nausea and vomiting. 2. The characteristic symptom of migraine is periodicity. 3. The only known cause is eye strain. 4. The sole cure of migraine is correct glasses. 5. Good distant vision and ability to read with "comfort" does not exclude eye strain. 6. In many of the worst cases weak lenses only are required, but these must be of the most right kinds. 7. The ages of the patients ran from 4 to 52 years. 8. The seriousness and frequency of the attacks increase with age. 9. Failure of glasses to cure migraine is almost certain to be due to faulty refraction work.

**The Pneumonia Heart:** The Medical Council for January states that the pneumonia heart is the heart of toxemia. When the initial toxemia is marked in pneumonia the heart is always later involved. The safer rule, it would seem, is always to anticipate the weakened heart in toxemic cases of pneumonia, and not to wait until cardiac symptoms are a serious factor. Consolidation is serious anywhere in tissues apt to be invaded by germ life, and the consolidation of pneumonia with very little circulation through it, favors the proliferation of bacteria of many kinds. If only one specific organism was involved in pneumonia, the pneumococcus vaccine, effective in chronic local suppurations due to the pneumococcus, would be vastly more curative than it is. So there is a multigerm involvement, and a severe toxemia, and this toxemia is hard to combat. Morgenroth developed ethyl-hydro-cuprein hydrochlorate which cures pneumococcus septicemia in mice, but it does not cure pneumonia in man. No drug can get into the consolidated area in pneumonia, at least not in sufficient amount to be effective, and that is the trouble with the whole proposition of a specific treatment in pneumonia. But something must be done for the toxemia. Argue as we will that something is stimulation. Theoretically, the writer does not approve of brandy in the treatment of pneumonia, but facts in his practice are against him, since brandy has tided over quite a number of cases that assuredly looked bad. Camphor hypodermatically has, in his hands, acted very much more effectively than has strychnin. If the toxemia be not profound, alcohol may not be needed, as hydrotherapy alone will do little. In either event, use water freely to flush the kidneys, and make the bowels more free, as well as frequent tepid sponging of the whole surface of the body. Hydrotherapy plus stimulation moderates the toxemia appreciably, but it must ever be borne in mind that it takes but little toxemia to seriously embarrass the heart. As in all toxemias, the pneumonia heart is one which first shows weakening in its first sound, and the systolic and diastolic intervals become equal. Then some dilation occurs, which may become marked on the right side, and cyanosis marks its progress. As to treating it, first of all don't overtreat, but begin early, and don't wait until cyanosis is manifest. Standardized tincture digitalis may be given early, and may be all that is needed. If the right heart is dilated with great cyanosis, venesection is a valuable resource. But do not employ it in children or the poorly nourished. Strychnin is valuable as a potent agent of last resource, and in severe cases. He has never seen oxygen inhalations do much in late pneumonia except in children. Theoretically it is indicated, practically it seldom works unless given early. Do not give cardiac depressants for the pyrexia.

**Cardiovascular System:** H. A. Hare, in the *Therapeutic Gazette* for December, presents certain facts of interest about the cardiovascular system. We sometimes meet with cases, usually in men in or past middle life, who present evidence of having a tired heart, by reason of its feeble first sound, or because of irregularities or missed beats. An examination of the systolic pressure may show it not to be greatly in excess of normal for the age, because the heart is too tired to produce a very high systolic pressure, but the finding of a high diastolic pressure will indicate vascular spasm or fibrosis, whereby the

vessels are narrowed, and the work of the heart increased. Manifestly, in such a case two things are indicated, namely, physical or mental rest, which in turn is produced, not only by the lack of demand for labor on the part of the heart, but by the relaxation of the vessels, which rest induces. It is in this type of cases that moderate massage begun after some days of absolute rest does so much good, particularly if small doses of digitalis and arsenic are used. It is in this type of case, too, that the nitrites do good, particularly if on palpitating the vessels they are found not to be hardened or thickened, even if they are tense. He reiterates what he has often insisted on, namely, a protest against the use of nitroglycerin with or without other drugs for the purpose of helping a failing circulation. How this well-nigh universal plan ever came to be practiced, he does not know. There is no use of nitroglycerin in pneumonia, except possibly in the early stages of the disease, when the patient is a sufferer from hypertension before he is stricken, and this fever is increased by the fever of the acute illness. He also states some facts as to the therapy of the cases of spasm and fibrosis of the vessels. The only way to properly determine the proper dose of the nitrates for a given case is to control their dose by observation of the diastolic pressure. Nitroglycerin is wrongly given in the majority of instances. Better give so little as 1/300 grain every two or three hours, than 1/100 grain t. i. d., for a dose given at the interval of every eight hours acts at most for an hour and leaves the next seven hours drug-free. It is to be recalled that relaxing the vessels has a value over and above the decreased resistance to the heart, and the stress on the vessel walls. The relaxation of the vessel permits a better supply of blood to the vessel walls by the vaso vasorum, which are compressed if the vessel is in spasm. Careful consideration of the subject will show that although the use of nitrites can be of little value in cases of vascular fibrosis, the employment of electric cabinet and Nauheim baths, and the use of certain alteratives, particularly that ancient but useful combination called Donovan's solution, may and often does lower pressure and greatly improve cardiovascular tone.

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**Antitoxin:** In the *British Journal of Children's Diseases*, J. D. Rolleston and C. MacLeod write upon intramuscular injections of antitoxin in the treatment of diphtheria. Intramuscular injections of drugs were first employed about forty years ago, when it was found that deep injections of mercurial salts into the gluteal regions were less painful, and less likely to give rise to abscesses than the subcutaneous method which had been recently introduced by Scarenzio in treating syphilis. Meltzer and Auer later showed that intramuscular injections were more rapidly absorbed than subcutaneous. Hitherto it had been supposed that less absorption from muscles was shown than from subcutaneous tissue, owing to the comparative scarcity of lymphatics in the muscles.

Subsequently physiologists proved that absorption of fluid occurred primarily through the walls of the blood-capillaries, and only exceptionally through the lymphatics. Experiments made by Morgenroth and Levy were confirmed by Levin, who found that the antitoxin concentration reached in the blood after ten hours was fourteen times greater after intramuscular than after subcutaneous injections. Since then intramuscular injections have largely superseded subcutaneous in German hospitals. The writers of the paper have given 412 injections in 339 patients, and they prefer the thigh to the gluteal region. They conclude, that intramuscular injection preferably in the vastus externus, deserves to supersede all other methods of administration of antitoxin in diphtheria as:

- (1) It is quite as simple as the subcutaneous method, ensures much more rapid absorption, is less painful, and less liable to give rise to abscess.
- (2) It is superior to the intravenous method, in the greater simplicity of technique, and less rapid excretion of antitoxin.
- (3) The more rapid absorption is shown, not in effect on faucial and laryngeal process, but by lesser incidence of paralysis, especially severe.



## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred and twenty-fifth regular meeting of the Academy of Medicine was held Friday, December 17, 1915, at the Cleveland Medical Library, the President, Doctor C. F. Hoover, in the chair.

The minutes of the previous meeting were read and approved.

The minutes of the Council meeting of December 8th were read. The chair called the especial attention of the members to the fact that approval of the minutes of the Council approved the resolution addressed to Mr. Davis, recommending the retention of the present organization of the Division of Health. The minutes were approved as read.

The Secretary, J. E. Tuckerman, made the following report for 1915, which was read, accepted and placed on file:

It is the pleasure of the Secretary to report the following summary of the activities of the Academy, exclusive of the work of the standing committees, which is contained in the reports of the Chairman of these Committees.

The Council has held 11 meetings, 9 regular and 2 special, full reports of which have been published in the *Journal*.

The Academy has held ten regular meetings, with an average attendance of 94.

The sections have made the following reports to the Council:

	Number Meetings	Total Attend.	Av. Attend.
Clinical and Pathological.....	7	716	102
Experimental Medicine.....	7	274	45
Ophth. and Oto-Laryngological	7	85	12
Veterinary .....	8	82	10

	Papers	Specimens	Cases Presented	Cases Reported
Clinical and Pathological.....	13	17	60	
Experimental Medicine .....	22			
Ophth. & Oto-Laryngological	8	5	16	10
Veterinary .....	144			

The plan of having the Clinical and Pathological Section hold meetings in conjunction with hospitals has been a marked success. Five such meetings were held last year. This plan was begun in 1914 and there has been a steady increase in the attendance upon this section, as shown by the averages of 85 in 1913, 97 in 1914, and 102 in 1915.

The veterinary section has been active as usual and has held one out-of-town clinical meeting at Elyria, O. This section has in its membership practically all the reliable veterinarians in the county.

It will be noted in the report of the Chairman of the Membership Committee that there has been a decrease in the non-resident membership. This decrease has been going on for the last three or four years, and is mainly due to the fact that the neighboring counties from which non-resident membership is drawn have established and improved their local societies, thus removing the incentive for their members to hold non-resident membership in neighboring counties.

There has been a yearly decrease in the number of active members dropped for non-payment of dues. In 1911 there were 33; in 1912, 16; in 1913, 10; in 1914, 9; and in 1915, only 4. There has been a constant increase in the active membership. This year 48 new members joined the Academy, which is the largest number since the organization of county societies as component parts of the State and national associations.

The increased activities of the State association; the improvement of its journal, including the restriction of its advertising to those things approved by the Council on Pharmacy and Chemistry of the American Medical Association; the employment of a man who devotes his whole time to the interests of the journal and the society, making it possible for members of the State association through the journal to be kept in constant touch with all matters of medical interest occurring within the State; and the probable introduction at the coming State meeting of medical defense for its members, has made necessary increased financial demands by the State association upon the county societies. This, together with the necessity of placing the finances of the Academy upon a sound basis, has made necessary the increase in the dues proposed by the Council and ratified by the Academy.

The Council is confident that most of the members will not only acquiesce in this necessary increase by retaining their membership, but will facilitate the work of the Academy and State Association by promptly paying their dues for 1916.

The coming year the Ohio State Medical Association meets in Cleveland. The Council would suggest that each member of the Academy place his services at the disposal of the Committee on Entertainment, giving them that hearty co-operation which is necessary to make this a successful meeting.

The report of the Treasurer, J. E. Tuckerman, was read. Doctor S. L. Bernstein reported for the Auditing Committee. On motion by Doctor Bunts, the report of the Treasurer was approved and placed on file. The report follows:

#### Balance Sheet

##### Balance on hand Dec. 12, 1914:

Savings Account .....	\$ 529.34
Checking Account .....	.80

##### Receipts:

Membership Dues and Admission Fees.....	\$2,813.00
Outing .....	100.30
Interest on Savings Account.....	21.36

##### Disbursements:

Ohio State Medical Association.....	\$1,275.50
Cleveland Medical Library Association.....	514.00
Cleveland Medical Journal Co.....	514.00
O. S. Hubbell (Printing and Postage, Programs)....	459.15
Secretary-Treasurer .....	275.00
Outing .....	134.75
Traveling Expenses of Speakers.....	99.50
H. V. Wehirauch (Reports of Meetings).....	41.00
J. C. Harding (Operating Projectoscope).....	26.00
Rosters (Reprinted from <i>Journal</i> ).....	25.00
Horace Carr (Printing).....	24.30
Checks returned (N. S. F.).....	12.00
Elliott Co. (Stencils Addressing Machine).....	5.41
Receipt-Label Co. ....	4.15
Davis and Farley (Treasurer's Bond).....	2.50
Rubber Stamps and Ink-Pads.....	1.85
Roberts Co. (Letter Files).....	.90

##### Balance on hand Dec. 11, 1915:

Savings Account .....	.70
Checking Account .....	49.09

\$3,464.80	\$3,464.80
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## Accounts Payable:

Ohio State Medical Association.....	\$ 12.00
Speakers' Traveling Expenses.....	59.20
Secretary-Treasurer .....	25.00
O. S. Hubbell (Printing and Postage).....	39.75
Reports of Meetings.....	10.00
Office Record Books and Supplies.....	6.25
Stencils Addressing Machine.....	.25

Total .....\$152.45

## Summary

Dec. 12, '14—Balance in Checking Account.....	.80
Receipts from Dues, etc., 1915.....	\$2,913.30
Transferred from Savings to Checking Account, 1915 .....	550.00
Total .....	\$3,464.10

Total Expenditures, 1915.....\$3,415.01

Dec. 11, '15—Balance in Checking Account.....	\$ 49.09
Balance in Savings Account.....	.70

Total Balance, 1915..... 49.79

Dec. 11, '15—Accounts Payable .....	\$ 152.45
Balance .....	49.09

Deficit .....\$ 103.36

Doctor C. E. Ford, Chairman, reported for the Legislative Committee as follows, the report being accepted and placed on file:

**Report of Legislative Committee, 1915**

Your committee consisted of Doctors R. E. Skeel, C. W. Eddy and the Chairman. The committee has held no called meetings during the year by reason of the organization and continuous activity of the Ohio Public Health Federation, which was tentatively organized on September 3rd, 1914, and permanently organized on September 24th.

The Federation consists of eight hundred representatives of the following societies:

- Ohio Society for Prevention of Tuberculosis (1,500 members).
- Ohio State Medical Association (4,000 members).
- Homeopathic Medical Society of Ohio (340 members).
- Ohio Eclectic Medical Association (225 members).
- Ohio State Dental Society (1,250 members).
- Ohio Veterinary Medical Association (300 members).
- Ohio State Pharmaceutical Association (1 350 members).

The State Board of Health, State Medical Board, and the Ohio Commission for the Blind.

This organization has been remarkably successful. The legislation going on the statute books of Ohio will have a far-reaching effect upon the public health conditions of the State.

Your committee was continuously in touch with this central body and your Chairman visited the State Capitol on several occasions. The large influence exercised by this body came from the efforts of committeemen at the homes of legislators. The committeemen were supplied with confidential bulletins, issued as frequently as occasions demanded, containing all information collected at the Capitol. It was the duty of the local

committee to keep in touch with the member of the Legislature residing in his county, and it was his further duty to influence local interest. Thus the success or failure of the Federation depended entirely upon the activity of the local committeemen. With the Legislative Committee of the Academy a component part of the State Medical Association, our influence was exercised directly upon legislators. The Senators from Cuyahoga County seemed to be entirely out of sympathy with medical legislation and at every opportunity voted with the quacks and irregulars. They were:

E. J. Hopple, attorney, 1611 Williamson Building.

Herman Fellingner, insurance, 377 Arcade.

Jas. S. Kennedy, plumber, 2116 E. 83rd street.

Chas. A. Mooney, insurance, 309 New England Building.

D. L. Sutter, retired, 15016 Cardinal avenue.

Without exception, these men voted for amendments that would have entirely destroyed the quack advertising provisions of the Hoy Bill, and because they failed to secure these amendments, they voted against the bill.

With the exception of Sutter, they voted for the McDermott amendment to the Cult Practicing Bill, which permitted the licensing for examination of those cult practitioners who had been violating the law of Ohio for more than five years.

Without exception, they voted to exempt the optometrists from the operation of the Cult Practice Law. Mr. Fellingner led the floor fight for this amendment.

With the exception of Mr. Mooney, they voted to take the registration of nurses from the State Medical Board and lodge the entire control of nursing with its important bearing upon hospital management in the hands of a Board of Nurses.

In other words, these five men on almost every possible occasion voted against legislation favored by the Federation and by the State Medical Association.

In the House there was very little opposition to medical measures, so that the record of the House delegates from this county is uninteresting.

Nine bills detailed below, which the Federation endorsed, have been enacted laws; eight, which it went on record against, were defeated, and only five which it endorsed failed enactment. And all of these, with one exception, went to defeat by a narrow margin.

*House Bill No. 121*, by Doctor W. S. Hoy, of Jackson County, which authorized the State Board of Health to manufacture and produce for distribution to indigent persons, upon certification of the family physician, free diphtheria antitoxin. This work has been inaugurated by the Board and antitoxin will be available early in 1916.

January 22—Endorsed by the Federation;

January 25—Introduced in the House;

February 2—Passed in House, 106 to 1;

February 18—Passed Senate, 28 to 0.

*House Bill No. 132*, by Mr. G. H. Platt, of Ashtabula. Transfer from the State Agricultural Commission to the Board of Pharmacy, enforcement of all laws relating to the practice of pharmacy and the sale of poisons and narcotics, and changed the narcotic regulations to correspond with the Harrison Federal Narcotic Law. Through an amendment in the House, which was approved by the Federation, a clause was added to regulate the prescription of narcotic drugs to habitues and to persons needing same because of chronic illness. The amendment provided that such persons shall apply to the probate judge, who is directed to appoint a physician to determine the patient's need for such drugs and to issue special permits where such needs were discovered. *The Governor vetoed the bill*, stating that the feared the administration of this latter clause, placing the control of drug habitues under the probate courts, would be too expensive to the State. The main portions of this bill practically re-



enacted the old Duffy State narcotic regulatory law which, at that time, had been declared unconstitutional but which has since been restored to effectiveness.

January—Introduced in the House;

February 17—Approved by Federation;

May 6—Passed House, 88 to 1;

May 7—Passed Senate, 20 to 0.

June 4—Vetoed by Governor Willis.

*House Bill No. 142*, by Doctor Hoy, of Jackson. Amendment to the Medical Practice Act making it unlawful for registered physicians to employ cappers, solicitors, or drummers; to use extravagantly worded statements intending or having a tendency to defraud the public in medical advertisements—particularly those pandering to sufferers from tuberculosis, cancer, Bright's disease, etc.; fee-splitting; connection with illegal practitioner of medicine, operating under the shield of a company name, and other similar offenses against common decency. The law materially strengthens the power of the State to deal summarily with dangerous quacks who live by preying on the ignorant sick. The law also confers upon the State Medical Board additional powers strengthening its machinery to deal with quacks, by strengthening its authority to conduct trials and investigations.

January 22—Approved by Federation;

January 25—Introduced in the House;

February 19—Passed House, 71 to 13;

April 1—Passed Senate, 19 to 6.

*House Bill No. 154*, by Mr. George M. Morris, of Fairfield County. Changes the rules governing admission and discharge of patients in Ohio State Sanatorium for Tuberculosis by giving the State Board of Health authority to pass rules and regulations regarding same, subject to the approval of the Board of Administration. It abolishes the present fee of \$5.00 a week arbitrarily charged all patients in all cases under the old law, and lodges the determination of the fee and of the patient's ability to pay with the State Board of Charities, thereby removing a factor which has frequently forced many patients to leave the institution when on the road to recovery. It also abolishes list of official examining physicians and permits examination of applicants by any licensed physician.

January 4—Approved by Federation;

January 26—Introduced into House;

February 25—Passed House, 91 to 0;

May 15—Passed Senate, 22 to 3.

*House Bill No. 220*, Platt-Ellis (Hon. G. H. Platt, Ashtabula, and Doctor W. P. Ellis, Geauga). This measure provides for the licensing by the State Medical Board of all non-medical healers, after an examination in anatomy, physiology, chemistry, bacteriology, pathology, hygiene, diagnosis, and in the limited branch in which the applicant seeks to practice. It specifically bars these limited practitioners from treating infectious, contagious or venereal diseases, from performing major surgery or administering drugs. It provides that all limited practitioners shall practice under rules and regulations established by the Medical Board. High examination requirements shall apply only to those who enter the practice in Ohio in the future. Liberal exemptions were made in favor of those who had been practicing in this State from one to five years. This measure was introduced as a complete substitute for House Bill No. 220, by Mr. Platt, which sought to license chiropractors only and to provide for their licensing by a separate board of chiropractic, under flimsy educational requirements and loose restrictions. The substitute bill before

being introduced was thoroughly considered by the Executive Council of the Federation and unanimously approved. It was passed with very few amendments and is regarded as the best cult practice regulation measure in the United States—carrying with it the fullest measure of protection to the people from ignorant and unscrupulous practitioners in these limited fields, and at the same time extending a “square deal” to non-medical practitioners.

February 3—Original Platt Bill, H. B. 220, introduced;

February 5—Disapproved by the Federation;

March 26—House Public Health Committee report as a substitute the above-mentioned Platt-Ellis Bill;

March 29—Substitute formally approved by Federation;

April 6—Substitute Bill passed House, 104 to 0;

April 14—Passed Senate, 21 to 11.

*House Bill No. 323*, by W. R. Sprague, of Scioto. Provides for the registration of nurses by the State Medical Board, by creating a nurses' examining committee working under the direction of the Board, which will examine applicants for certificates in nursing, in anatomy, physiology, obstetrics, bacteriology, hygiene, Materia medica, dietetics, practical nursing, and such other subjects as the Board and committee may require. Provides penalty for persons posing as registered nurses or using any titles or letters in connection with their names indicating same, who are not licensed; specifically provides that nothing shall be construed to prevent or prohibit the performance of service either with or without compensation in nursing the sick or injured by any person, providing such services are not performed by such person as a registered nurse.

February 5—Approved by Federation;

February 16—Introduced into House;

April 6—Passed House, 79 to 6;

April 15—Passed Senate, 25 to 3, after amendment removing control from the State Medical Board.

The Federation opposed these amendments, and on April 21 secured reconsideration and defeated them and passed the bill in its original form, 26 to 6.

*House Bill No. 376*, by C. A. White, of Columbiana. Provides for higher educational requirements for those who practice pharmacy in Ohio.

March 1—Introduced into House;

March 30—Approved by Federation;

April 27—Passed House, 77 to 3;

May 6—Passed Senate, 23 to 0.

*House Bill No. 407*, by Doctor Van S. Deaton, of Miami. Requiring the administration of a prophylactic to prevent eye infection in infants at birth; lodges the administration of this work with the State Board of Health and provided an annual appropriation of \$5,000 for the retention of nurses to attend babies requiring treatment. This law is closely patterned after the model law drafted by the American Medical Association and is one of the most advanced measures ever enacted in the United States for the prevention of blindness.

February 5—Approved by Federation;

March 10—Introduced into House;

April 15—Passed House, 66 to 0;

May 5—Passed Senate, 19 to 0.



*Senate Bill No. 84*, by E. G. Lloyd, of Franklin. Provides higher educational requirements for dental practitioners in Ohio and gives the State Dental Board additional power to revoke licenses for inebriety, addiction to drugs, fraudulent advertising, etc.; requires that an office shall be operated under the name of the proprietor so that the public may be able to place the responsibility of an operation with the proper person.

February 5—Approved by Federation;

February 9—Introduced into Senate;

March 2—Passed Senate, 29 to 0.

April 22—Passed House, 92 to 0.

### **Bills Which Federation Opposed Which Were Defeated**

In addition to securing the enactment by the Legislature of laws favorable to the cause of public health in Ohio, the Executive Council of the Federation regarded as an equally important feature of its work the defeat of bills, the enactment of which would have operated unfavorably. In fact, probably a majority of the time during the session was spent in fighting unfavorable legislation. In this, the Federation was signally successful. Not a single measure which we opposed was passed by the General Assembly.

On the other hand, the following bills which the Council found to be inimical to public health were successfully opposed and defeated. In many instances the only opposition to these measures was presented by this Federation. Without the Federation, some of these bills would have become laws, and the result would have been serious.

The following bills were opposed by the Federation and were defeated:

*House Bill No. 177*, by V. J. Terrell, of Cuyahoga. A bill to exempt Christian Science healers, "divine healers" and other religious or faith practitioners from the operation of the Medical Practice Act. The enactment of this bill would have caused the State to be overrun with faith healers having little or no knowledge of the human body, who by claiming some sort of "divine connection" could have practiced medicine indiscriminately without the qualifications demanded of physicians. This bill was opposed in House Committee on Codes and Court Procedure, and was never reported for passage.

*House Bill No. 197*, by J. S. Graham, of Licking. This proposed an amendment to the section of the general code relating to the misbranding of foods. The bill contained a "sleeper" which would have seriously weakened the pure food laws of Ohio. It was opposed by the Federation and was defeated on March 24 in the House, 59 to 18.

*House Bill No. 244*, by Anthony Nieding of Lorain. Provided for the abolishment of the State Board of Health and the State Board of Medical Registration and the creation of a joint board to combine a portion of the work of each. Its enactment would have retarded public health administration in Ohio twenty years. It was killed by the House Committee on Public Health.

*House Bill No. 397*, by H. G. Knox, of Washington. Provided for the licensing by the State of naturopaths and other forms of "natural healers" under flimsy educational requirements. Opposed by the Federation and killed by the House Committee on Public Health.

*House Bill No. 543*, by H. S. Fox of Lucas. A second bill permitting Christian Science healers to accept fees for their services—the enactment of which would have rendered farcical the Medical Practice Act. This bill was backed by a large lobby of Christian Scientists. The bill at the close of the session remained in the House Committee on Judiciary.

*Senate Bill No. 58*, by C. A. Mooney, of Cleveland. A duplicate of House Bill No. 177 mentioned above. Killed in Senate Committee on Public Health.

### These Were Lost

Five bills which the Federation "got behind" and worked for were defeated during the session. These were as follows:

*House Bill No. 64*, by Doctor Deaton, of Miami. Provided for the transfer of the Bureau of Vital Statistics from the office of the Secretary of State to the State Board of Health. Due almost solely to efforts of the Secretary of State, this bill was beaten in the House, February 18, 79 to 24.

*House Bill No. 250*, by Adam Oberlin, of Stark. Modified the present law regarding the commitment to State hospitals, by permitting the Commitment for definite periods of inebriety, and drug habitues. Under the present laws, these persons must be committed under the insanity statutes as insane persons, which has proven very unsatisfactory. This bill passed the House March 24, 76 to 16, but encountered unexpected opposition in the Senate and was defeated there on May 18 by a vote of 17 to 15.

*House Bill No. 360*, by Doctor Hoy, of Jackson. Removed the present limitation of \$200.00 for complete hospital, nurse, medical and surgical attention rendered in any single case under the Workmen's Compensation Act, as administered by the Industrial Commission of Ohio. The limitation has been found to affect only a small number of cases, but to work a serious hardship in those cases. This bill had the approval of the Commission as well as the Federation, but owing to the agreement not to tamper with any feature of the Workmen's Compensation Law, this measure was overwhelmingly defeated in the House on May 17.

*House Bill No. 476*, by Charles Harding, of Hamilton. A complicated measure providing for the administration of narcotic laws, bringing them into conformity with the federal act, and for the commitment of State institutions of drug habitues. After a survey of the various proposed drug regulations this bill was determined by the Executive Council to offer the best protection to the public, and was approved. It was defeated in the House on April 27, 39 to 43, receiving the majority of votes cast but not a constitutional majority necessary to enact.

*Senate Bill No. 186*, by L. E. Myers, of Marion. Provided for the abolition of the office of coroner and created a new office of county medical examiner, to be appointed by and work in co-operation with the county prosecuting attorney. The proposed office would have performed all duties now assigned to the coroner and in addition would have served as medical adviser to the prosecuting attorney's office in all business affecting the county. The coroners of the State organized shortly after the introduction of the bill and were largely instrumental in its defeat in the Senate on April 13, by a vote of 22 to 10.

The Academy through its committee has been active in the support of local measures. The community is under special obligations, through the influence of the Academy, for the passage of the present Milk Ordinance requiring the pasteurization of all market milk. The demonstration of the power of this body was extremely gratifying and your Chairman feels, from his observation of the power of medical bodies, when properly organized, is encouraging to the highest degree.

Members of your Committee became active with the officers of the State Society in securing a reversal of the ruling of the State Insurance Department on the matter of Defense and Indemnification. Attorney General Turner's ruling is published in the current number of the *State Journal*.



I firmly believe that by assuming a definite position on subjects of merit, the Academy of Medicine can secure just about what it wants.

Respectfully,

C. E. FORD, Chairman,

C. W. EDDY,

R. E. SKEEL.

Doctor Perkins reported for the Committee on Public Health, stating that no special matters had been referred to it by the Council during the year.

Doctor A. S. Storey reported that the Civic Committee had no special report to make.

Doctor G. W. Moorehouse, Chairman, reported for the Membership Committee, making some suggestions for the correction of records. The report was accepted and placed on file and follows as read:

### Report of Membership Committee, 1915

The Membership Committee for the year 1915 consisted of the following members: W. J. Manning, W. J. Abbott, W. A. Medlin, W. A. Schlesinger, F. W. Hitchings, J. M. Moore and the undersigned as Chairman. In the work of the committee we had full access to the very complete annotated lists of non-affiliated physicians of Cleveland which have been compiled by the Secretary of the Academy.

The new members of the year 1915 whose names have passed through the hands of the Membership Committee are 55 in number. Further additions have been made to the roster by reinstatement and by transfer from other societies; of these there were 8, making a total of 71 in gains for the year.

During the year 1915 there has been a loss of 30 members distributed as follows: Death, 6; transfer, 5; resignation, 3; dropped for non-payment of dues, 16. The total gain for the year was, therefore, 41. Since in our non-resident list losses are at present greater than gains, the net gain in active members is 47, as compared with the total net gain of 41.

Notwithstanding this favorable growth in membership, those who are interested in the activities of the Academy should not shut their eyes to the fact that in every line of endeavor the Academy has not, for the past several years, been living up to its possibilities. Rather than acting as a closely knit organization making its influence felt as it might upon its membership and in reference to public questions, it has been a loosely knit, drifting body. It is not my function to point out the causes for the present state of affairs, but it is to be hoped that these causes will be found and remedied, and that the organization may soon be brought back to the state of efficiency and enthusiasm noted in its early years, and may then go on to even better things.

According to current lists, the membership in the Academy of Medicine of Cleveland for the year 1915 is 651. Of this number 529 are active members; 77 are non-resident; 37 are associate—of these the largest and possibly the most active group is that of the associate veterinarians, 21 in number; 6 are honorary and 2 non-active.

In studying the roster of the Academy with reference to honorary members it appears that only a part of the total number are found in the current list. A search of the Secretary's records discloses the fact that a number of names disappeared by virtue of the activities of the Grim Reaper, one by transfer to active membership, while the name of an eminent member of the profession still living is no longer on our lists. The same search revealed the further somewhat surprising fact that no evidence could be found of the election of more than two of the individuals who have even been listed as honorary members of the Academy. A correction of this error—which is clearly one on the part of the Council—

reduces the total membership in the Academy to 647. To name the two who appear really to be honorary members would be to make an invidious distinction among men whom the Academy in times past desired to honor. I recommend to the incoming Council that steps be taken to remedy the defects. I further recommend that complete lists of honorary members be preserved and that suitable notations as to decease, transfer, and so forth, be appended rather than, as in the past, dropping such names.

The non-active list gives the Council an opportunity for an expression of appreciation of local men, who would otherwise allow their membership to lapse, usually on account of growing physical infirmities compelling retirement from medical practice. Since these men are not likely to apply for non-active membership, and are as apt to allow their names to be dropped for non-payment of dues as to resign, this possibility of recognition of past faithfulness should not be overlooked by the Council in its revision of membership lists.

(Signed) G. W. MOOREHOUSE, Chairman.

Doctor Lester Taylor, Chairman of the Program Committee, was detained by an accident. The report of the committee was received by title and ordered published, as follows:

### Report of Program Committee

Since the last report of your committee in December, 1914, there have been ten general meetings of the Academy.

Along with the various sections, meetings were discontinued during the months of July and August.

The total number of papers presented were 19; 9 were presented by Cleveland men, and 10 were presented by guests from other cities.

The local physicians who appeared before the general meetings were:

Doctors J. L. Bubis, H. N. Cole, C. L. Cummer, W. G. Stern, S. Chieu, R. Dexter, S. H. Large, E. H. Cox.

The society had as guests from out of town:

Doctor A. S. Warthin, Prof. Pathology, Uni. of Michigan.

Doctor Reuben Peterson, Prof. Gyn. and Obs., Uni. of Michigan.

Doctor R. T. Woodyat, Uni. of Chicago.

Doctor Richard Mills Pearce, Prof. Research Medicine, Uni. of Pennsylvania.

Doctor Allen B. Kanavel, Asst. Prof. of Surgery, Northwestern Uni.

Doctor Arnold C. Klebs, Luzerne, Switzerland.

Doctor Fielding H. Garrison, Director Surg.-General's Library, Washington, D. C.

Doctors H. F. Helmholtz and L. Gerdine, Chicago, Ills.

Doctor Alfred F. Hess, New York City.

Doctor Mortimer Frank, Chicago, Ills.

In addition to the regular scientific discussion it was the duty of your Committee to arrange for the Annual Outing of the Academy, which was held August 5th at Willough Beach Park. The Committee is especially indebted to Mr. Eugene Selzer, of the Pharmaceutical Section, for the valuable assistance he rendered in making the affair enjoyable to those present. A heavy shower bursting over Cleveland in the early afternoon reduced our attendance to 81, but what was lacking in numbers was made up in enthusiasm.

The subjects of the past year have been chosen not from a practical point of view but rather with the idea of cultivating the interest of the profession in the theoretical and historical side of our sciences. The various sections have taken up adequately the clinical and practical side, and in the absence of any Historical Society of our own it seems fitting our interest and intelligence relating to the story of the development of medicine should be further cultivated in the general meeting.

(Signed) LESTER TAYLOR, Chairman.



Doctor J. J. Thomas reported for the Milk Commission. The following report was received and placed on file.

### Report of the Milk Commission of Cleveland, 1915

The chief problems that have confronted this Commission during the past year have been: (1) Tuberculosis in the herd. (2) Mastitis in the herd. (3) Transportation difficulties.

1. *Tuberculosis.* As revealed by the tuberculin test it has never been possible for us to have a tuberculosis-free herd. The annual test has always shown from 1 to 3 per cent of reactors, notwithstanding careful testing and re-testing of all animals added to the herd.

One year, the percentage of reacting animals rose to 10 per cent. These results were obtained with commercial tuberculin, all animals being tested by our veterinarian, Doctor Samuel Burrows.

Last Spring our producer, The Belle-Vernon Mapes Dairy Co., wishing to avail themselves of the reimbursement offered by the State for cattle reacting to tuberculin when government tuberculin was used and the test made under State supervision, requested that our Commission sanction this change.

This request was granted and the Commission's veterinarian instructed to be present and if necessary co-operate with the State officials during the test.

The test resulted as follows:

Of 188 animals inoculated, 18 reacted "positively" and 7 others were considered as "suspicious." These 25 cows were at once removed from the herd and slaughtered. Post mortem, the 5 cows that had reacted "positively" revealed no demonstrable lesions.

The 7 cows considered "suspicious" were all tuberculous, 3 cows were extensively diseased ("tanked"), the balance, 10, all revealed slight lesions (glandular).

It can safely be assumed that the 5 cows reacting were slightly tuberculous, notwithstanding the negative findings post mortem, and certainly the post mortem findings proved the wisdom of slaughtering the 7 cows reacting "suspiciously."

The 3 extensively diseased animals were the real menace, not only because they were undoubtedly spreading the disease among the cattle, but may have been giving tuberculous milk.

Fortunately the other 22 condemned were in the earliest stages of the disease.

2. *Mastitis.* Like tuberculosis, mastitis is an ever-present possibility and the importance of detecting this source of contamination early is evident, especially when we remember that there may be no visible signs of this disease from an inspection and palpation of the udder.

A practical and efficient method of detecting abnormal milk (garget) is to milk a few c.c. of the fore-milk from each quarter directly into 4 test tubes. A very slight difference in the color will be thus revealed instantly and other abnormal characteristics may be noted without much difficulty.

We detected by this method during May and June 15 cows out of a herd of 130 milkers giving gargety milk.

This method was devised by our veterinarian, Doctor Burrows.

Signs of contamination were first noted from our bacterial reports (see charts for May and June). Extra inspection visits were made by the veterinarian and Assistant Secretary, and the herdsman was instructed and assisted in making daily inspections of the entire herd as outlined above.

The cause of this outbreak has not yet been settled. The veterinarian of the Commission was of the opinion that it was due to faulty diet.

The medical members of the Commission interviewed upon this point favor the theory that mastitis is an external infection highly contagious and most probably communicated by the hands of the milker, and all possible precautions in this epidemic were taken accordingly. It is only fair to report, however, that coincident with a change in the diet of the herd as advised by our veterinarian a marked diminution in the outbreak occurred.

Although it is now several months since any sign of mastitis has been observed, the herdsman is required to examine the entire herd every week comparing the color and consistency of the milk coming from each quarter of the udder as drawn in test tubes.

### Pasteurization of Certified Milk

Early in June, although it was known that the chief source of the contamination of certified milk had been located and the animals affected segregated, the Commission recommended that temporarily certified milk be pasteurized. On June 10th, for the first time in the history of this Commission, certified milk was pasteurized. On June 20th, no more cases of mastitis having been discovered for several days and all bacterial counts confirming the absence of contamination, pasteurization was dispensed with June 23d.

3. *Transportation Difficulties.* It has always been a problem to transport certified milk in bulk because in hot weather the jacket alone is not always a sufficient protection when milk is transported a considerable distance in 10-gallon cans.

Since August 20th all bulk certified milk has been produced at and shipped daily from the Belle-Vernon Farm at Willoughby. The conditions under which it is produced are essentially the same as at the Novelty Farm, while the milk is only 12 and 24 hours old instead of 24 and 36 hours, and the time of transportation reduced about  $1\frac{1}{2}$  hours. Daily bacterial counts have been made of this milk and revealed a bacterial content as low if not lower than certified milk at its best.

### Improvements in Casein Milk

For some months the casein curd has been ground in a revolving grinder, machine driven, not only much more expeditious than the former hand-labor method but resulting in a much finer subdivision of the curd.

Another improvement suggested by one of the members of the Commission was the breaking up of the fatty layer which formerly frequently plugged up the holes in the nipples by heating the milk and passing it through the homogenizer. The finished product as made now is, therefore, much more homogenous. Appended to this report will be found 21 charts tabulating nearly 400 bacterial counts made on certified and bulk certified milk from January to December. These counts have been made by Mr. Bridgeman, chemist of the Belle-Vernon Mapes Dairy Co. A semi-monthly count is made also by the Commission's bacteriologist, Doctor Perkins.

The demand for certified milk is steadily increasing. We are now supervising the production of 1,250 quarts daily, besides 125 quarts of modified milk, representing a gain over one year ago of 20 and 50 per cent. respectively.

In conclusion, we are glad to be able to report a continuation of the pleasant relations and cordial co-operation between the Commission and our producer, The Belle-Vernon Mapes Dairy Co.

The chair then appointed as tellers Doctors G. W. Moorehouse, C. E. Ford and J. M. Moore.

During the process of balloting, Doctor Myron Metzenbaum exhibited an attachment to Holmes' pharyngoscope for directing a cutting forceps so



that one can operate around the entrance of the eustachian tube under direct view of the operator.

After the ballots had been cast the Academy listened to the paper of the evening, "The History of the Discovery of the Secretary Glands and Their Functions," by Doctor Mortimer Frank, Secretary of the Society of Medical History of Chicago. Doctor Frank's paper gave a chronological review of the development of our knowledge of the anatomy and physiology of the ductless glands, accompanied by lantern slide pictures of many of the investigators. The subject was very interesting and the presentation excellent.

The speaker outlined the humble beginnings of human knowledge respecting the secretory glands and their functions. In many cases the discovery of the glands and their ducts was an accident. Associated with the immense mass of work which has brought our knowledge of these structures to its present status are many of the most illustrious names in medicine.

Not only were the beginnings of work dealing with the secretory glands and their functions discussed, but in some cases present day contributions as well. One of the most interesting parts of the speaker's address was the stereopticon pictures of famous men and their work, which were used to illustrate his points from time to time.

Doctor G. W. Crile moved a vote of appreciation.

The tellers reported the election as follows:

*President*—Doctor Wm. Evans Bruner.

*First Vice-President*—Doctor K. R. Updegraff.

*Second Vice-President*—Doctor R. E. Skeel.

*Secretary-Treasurer*—Doctor J. E. Tuckerman.

*Trustees*—Doctors W. H. Weir and S. L. Bernstein.

The chair appointed Doctor Moorehouse to conduct Doctor Bruner to the chair. Doctor Bruner, upon accepting the gavel, expressed his appreciation of the honor and called upon the retiring president, who spoke briefly.

Doctor G. W. Moorehouse introduced the following resolution:

*"To the Ohio State Board of Medical Examination and Registration:*

*"Whereas—In a recent interview published in the Ohio State Medical Journal for December, 1915, Mr. Elbert H. Baker, president and general manager of the Cleveland Plain Dealer, has stated that he has in his possession evidence of the payment of commissions for the reference of patients for operation, and*

*"Whereas—The revocation of license to practice medicine is the penalty provided by the laws of the State of Ohio for this offense, therefore be it*

*"Resolved, By the Academy of Medicine of Cleveland that the Ohio State Board of Medical Examination and Registration be, and hereby is, requested to call upon Mr. Baker for such evidence as he may possess, and having received it, that it take such steps to punish this offense against the public and profession as are provided by law."*

The resolution was referred to the Council for action.

There being no further business, Doctor Bruner declared the meeting adjourned.

Attendance, 131.

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## CLINICAL AND PATHOLOGICAL SECTION

The one hundred and twelfth regular meeting of this section was held Friday, December 3, 1915, at the Cleveland Medical Library, the Chairman, S. J. Webster, in the chair.

The regular program follows:

### 1. The Diagnosis of Intracranial Hemorrhage in the New-born, by H. G. Sloan.

Intracranial hemorrhage in the new-born is divided into two general types, namely, supratentorial and infratentorial, as is indicated by the names. If the clot is of long enough standing, cell degeneration at the site of pressure may take place. In that event, the intracranial pressure is largely increased, for the dead cells swell and increase from 20 to 30 per cent in size. The loose manner in which the cranial bones are joined in the infant may accommodate for this increase.

Immediately after an intracranial hemorrhage, the picture which the child presents may be a normal one. Later the reflexes become hyperactive, and there are twitchings of muscles and other irritative phenomena, such as convulsions. Later there is spasticity of the affected parts. Finally, with cell death, there is flaccid paralysis and finally lethal exitus.

As for the symptoms which such a child presents, whereas the normal infant sleeps for many hours after birth, the infant with intracranial hemorrhage is restless. There is contortion of the facial muscles. The child refuses to take nourishment. The child with a supratentorial hemorrhage is usually pale, and the pulse is slower than normal. The pallor results from a general vasoconstriction which occurs in an attempt to raise the blood pressure. There may be a widened interspace between the bones at the lambdoid suture on the one side and not on the other. The fontanelles may remain sunken, even though there are other unmistakable signs of an intracranial hemorrhage. Later, however, they may bulge. The veins of the eye on the same side as the hemorrhage may bulge and the pupil may be contracted. The medulla with its vital centers is not affected in the supratentorial type as early as in the infratentorial type. Of the motor area, the face and arms are usually involved first, as the blood from the hemorrhage tends to run down. The sternocleidomastoid muscle on the same side of the lesion may show increased tone, pulling the child's head to one side, due to involvement of the spinal accessory nerve. The heart rate becomes progressively faster and the blood pressure falls at the same time. With facial signs, the possibility of an injury to the facial nerve at the time of delivery must be eliminated. To localize the hemorrhage one depends on the ordinary methods of cerebral localization. A rapidly developing hemorrhage is easier to diagnose than one which develops slowly.

Differentiation of the supratentorial from the infratentorial type is possible. If the hemorrhage is of the former type, the indication is for a decompression over the parietal region, if of the infratentorial type, for a decompression over the occipital region.

In the infratentorial type the child lies quietly, and is likely to be cyanotic, from early involvement of the respiratory center. There is evidence of spinal irritation with bilateral rigidity of the parts. Lumbar puncture gives a blood-tinged fluid. In the early stage there is less tendency to convulsions than with the supratentorial type. Also there is less tendency to early bulging of the fontanelles. Coma ensues early in the course followed by death.

It is also to be remembered that birth injury, without hemorrhage, is able to produce the same symptoms as actual pressure of a clot. After a difficult labor the child should be watched closely. Symptoms may not develop until 5 or 6 days after birth. Such a child should be kept quiet to guard against the onset of convulsions.



In all cases there should be an early operation while the pulse is still slow, before it has become weak and rapid and before the blood pressure has fallen. No anesthesia should be used, for the child is in all cases unconscious and suffers no pain, and further, with anesthesia the blood pressure falls. The fall may be just sufficient to cause an ischemia of the brain cells which will result in their dissolution. If a clot is found and has been thoroughly evacuated, the dura is carefully sutured to prevent, as far as possible, the formation of subsequent adhesions and the piece of bone is replaced. If no clot is found, the base of the brain should be carefully explored. The average mortality in such cases is 50 per cent. This will doubtless be reduced with earlier diagnosis of such cases.

S. L. Bernstein, in opening the discussion, asked what was the prognosis as to the subsequent mentality of such children after operation.

H. J. Gerstenberger commended the point made by the speaker, that the fontanelles do not bulge, in some cases, until late in the course. In his experience operation has been refused in several cases because the fontanelles did not bulge. The child's pulse, however, in no case slows to the same degree as an adult's in a given case, and in cases of intracranial hemorrhage in the new-born it is a mistake not to go in, even if the pulse is fast.

D. S. Hanson pointed out that certain authorities claim that even the minutest injury to brain tissue is followed by subsequent impairment in mentality. Even birth cyanosis is said to leave its mark. In his experience three cases were operated, all terminating fatally.

W. E. Lower asked concerning the efficiency of the X-ray, in such cases, as an aid to diagnosis. In several cases in his experience, where the hemorrhage covered a large extent of surface, the treatment seemed to work more harm than the hemorrhage.

W. G. Stern, commenting on cerebral paralysis, declared that such cases are the hardest which the orthopedic specialist is called on to treat. Many such cases follow protracted labor and forceps delivery. It is said that infants, after such a delivery, have a brain which is in a condition of unstable equilibrium, and although at the time they may manifest no symptoms, they may later develop them following, for example, a slight infection.

H. G. Sloan, in rebuttal, said that his experience showed no ill effects in infants after operation. Cushing's statistics, also, show that such infants up to the time of compilation, were entirely normal. Regarding operation, a fast pulse is not absolute contraindication, although better results may be hoped for before this stage is reached.

## **2. The Prognosis in Infantile Paralysis, by Walter G. Stern.**

At the present time Cleveland and other points in Ohio are in the throes of an epidemic of poliomyelitis anterior. In Cleveland, during the past year, there have been, according to the writer's estimate, between 300 and 400 cases. The type of the present epidemic is severe, and very few mild cases have been noted. The death rate of the disease in Ohio is estimated at 10 per cent of the total cases. According to some statistics, approximately 25 per cent of the total cases result in complete, spontaneous recovery.

When complete recovery takes place spontaneously, the climax is reached not later than 6 months from the time of onset. The prognosis in a given case depends, first, on the amount of real damage which has been done to the anterior horn cells, second, on the amount of congestion and neuritis in a given case, third, on the amount of muscular degeneration and deformity, and, fourth, on the regenerative power of the nervous system. Improvement in the condition can be secured later than 6 months provided the patient is under proper treatment. To give a prognosis in any given case is difficult, since all the factors involved must represent unknowns to the physician.

In the treatment the patient should not be made to support weight of any kind from the parts affected, that of bed clothes included. The parts involved should be removed from the influence of gravity. In addition, when a given group of muscles is affected, care should be taken that they are not forced to contend against the extreme pull of adversary muscles. To make the child get up and move about, on the theory that he needs exercise for the weakened parts, is sheer nonsense.

The location and number of the muscle group involved has no bearing on the prognosis. However, there is one exception, namely, that in cases where the facial muscles are involved, and these alone may be affected, the prognosis is uniformly favorable.

H. J. Gerstenberger, in opening the discussion, expressed gratification on the prognostic views held by the speaker. Many authorities hold that improvement in such cases cannot take place after the first few weeks. Others hold that with proper treatment it may take place as long as two years after the onset. There are certain border line cases which also come under the heading of poliomyelitis anterior. Some may show only fever and run their entire course in 24 hours. Others may present the picture of meningitis or of an encephalitis which clears up rapidly.

W. G. Stern, in rebuttal, called attention to the vast number of cases, especially in the smaller cities, which are given treatment the exact opposite of that which they should receive. Many of them are burdened with heavy braces which they must drag around with the paretic leg. This is a mistake.

## EXPERIMENTAL MEDICINE SECTION

The eighty-fourth regular meeting of this section was held at the Cleveland Medical Library, Friday, December 10, 1915, the Chairman, T. Wingate Todd, in the chair.

The regular program follows:

### 1. Sugar Retaining Power of the Liver, by J. J. R. MacLeod and R. G. Pierce.

The sugar retaining power of the liver, under various conditions, was discussed by the speaker, his points being illustrated by charts and tables. In a general way, his conclusions were that unlike a bucket of water, which when full tends to run over more than when empty, the liver, filled with glycogen, seems to be more competent to retain additional sugar than does the liver of a starving animal which contains no glycogen.

The speaker qualified his conclusions, not claiming an absolute deduction, but suggesting that the conclusions seemed likely on the basis of the data collected by him in his experiments.

### 2. Behavior of Acid Amides in the Organism, by C. H. Fiske.

As is well known, when protein is boiled with a mineral acid, it is decomposed to acid amides. In the same way, the acid amides when boiled with a mineral acid yield ammonia and organic acids.

When acetamide, the amide of acetic acid, is given to dogs, it is excreted in the urine of the animal almost unchanged. However, this action of the organism toward the acetamide is not typical of its behavior toward the other allopathic amides. For example, when proprioamide is given to dogs, 50 per cent of it is hydrolysed in the body, the remaining 50 per cent being excreted in the urine. In the case of another allopathic amide, namely, butyramide, 75 per cent of it is hydrolysed in the animal body, the remaining 25 per cent being excreted in the urine. It seems that the stability of the allopathic amides in the body decreases with the increase in their molecular weights.

When it was originally found that acetamide, when given to dogs, was excreted almost unchanged in the urine, the general deduction was drawn, wholly without justification, that this action was typical in the



case of all the allopathic amides. The present work shows on the contrary, however, that acetamide proves, apparently, to be an exception to the general rule governing allopathic amides.

### 3. Some Clinical Observations on Blood Flow, by G. N. Stewart.

The method of estimating blood flow through the hands and feet, the only portions of the body which adapt themselves to such procedure, consists of determining the amount of heat given off by these parts, in properly constructed calorimeters. Relative to the reliability and constancy of such estimations, as shown by repeated checkings in a given case, there is a remarkably small amount of variation.

There are certain generally constant results on the blood flow in different diseases. In the case of valvular lesions, the blood flow, naturally, varies greatly with the degree of compensation. In arteriosclerosis the flow, as would be expected, is small. In bradycardia the flow may be good or bad, depending on the efficiency of the mass movement of blood with a slow cardiac rate. In tachycardia the flow is quite apt to be small, showing that an overacting, rapid heart is less likely to be efficient. In cases of hemiplegia there is quite commonly a deficiency in the flow on the paralyzed side, the vasomotors, doubtless, being affected with the other nervous supply of the part. In progressive muscular atrophy, however, there is no change.

In tabes, as would be expected, it being a spinal cord disease, the vasomotor reflex is small. That is to say, that while normally when one extreme is placed in warm or cold water there is a corresponding increase or decrease in the blood flow through the opposite part, such a change is but feebly exhibited in tabes.

Estimation of the blood flow is of interest in cases of emboli, aneurism, and many others. It has a real clinical value. Thus, when a part following operation or disease, has a small blood flow, the increase or decrease in the blood flow may indicate either the gradual restoration of the circulation of the part to normal, or may show the likelihood of a subsequent gangrene. The method, therefore, is valuable from the standpoint of prognosis.

The disadvantage in the method lies in the amount of time consumed in its use, namely, 45 minutes, for each estimation, and also in the rather tedious technic which it demands.

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## COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine of Cleveland, held Wednesday, December 8, 1915, at the Bismarck, the following members were present: The President, Doctor Hoover, in the chair; Doctors Perkins, Moorehouse, Houck, May, J. J. Thomas, Ford, Webster, Follansbee, Selzer, Sawyer, Weir, and J. E. Tuckerman.

The minutes of the last meeting were read and approved.

On motion the following applicants were elected to active membership in the Academy:

C. D. Christie, E. D. Saunders, B. J. Sawicki, Alvin A. Stone.

On motion Doctor E. C. Konrad was reinstated in active membership.

The transfer of Doctor Kate Johnson Harris from the Wayne County Medical Society was accepted, on motion.

On motion the names of the following applicants for membership in the veterinary section were ordered published:

H. Fulstow, D. V. M., Norwalk, O.; Phil. H. Fulstow, D. V. M., Norwalk, O.; C. A. Jones, D. V. M., Medina, O.; Wm. F. Wise, D. V. M., Medina O.

The Secretary read the list of members dropped for non-payment of dues.

The following resolution was introduced by Doctor J. J. Thomas:

*"Whereas,* A change of city administration is about to take place, and

*"Whereas,* The Academy of Medicine of Cleveland is inherently interested in the promotion and maintainance of public health, and

*"Whereas,* The conduct of the Division of Health during the past six years has been in accord with the best professional standards and shows not only a high degree of personal efficiency, but embodies a policy which has enlisted both professional and lay co-operation, therefore

*"Be it resolved,* That inasmuch as every health interest of the public can best be served by the continuance in office of the efficient and faithful officers by whom an increasing measure of professional confidence and support have been won, we urge upon the incoming administration that the present Division of Health, both as to personnel and methods, be continued."

After full discussion, the resolution carried. On motion by Doctor Moorehouse, Doctors J. J. Thomas, C. F. Hoover and G. E. Follansbee were constituted a committee to present the resolution to Mr. Davis.

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A special meeting of the Council of the Academy of Medicine was held Wednesday, December 22, 1915, at the University Club to organize for the ensuing year. The members present were: The President, Doctor Wm. Evans Bruner; Doctors Updegraff, Thomas, Ceib, Selzer, Houck, Sawyer, Weir, Bernstein and Tuckerman, and by invitation, Doctors C. E. Ford and Lester Taylor.

On motion the following were elected chairmen of the standing committees:

*Legislative*—Doctor C. E. Ford.

*Civic*—Doctor H. L. Sanford.

*Public Health*—Doctor R. G. Perkins.

*Membership*—Doctor G. W. Moorehouse.

*Program*—Doctor Lester Taylor.

On motion the Secretary was directed to ask Doctor Alven S. Storey, chairman of the sub-committee on indemnity and defense insurance, to be present at Council meetings until further action.

On motion by Doctor W. H. Selzer the following resolution was adopted:

*"Whereas*—The contemplated deletion of whiskey and brandy from the U. S. Pharmacopoeia by the committee of revision leaves no standard for these substances when prescribed for medicinal purposes, and

*"Whereas*—The decree of Congress makes the pharmacopoeia the recognized and legal standard for medicinal substances, therefore,

*"Be it Resolved*—That the Academy of Medicine of Cleveland disapproves the action of the committee in proposing to omit these substances from the Pharmacopoeia."

Doctor C. E. Ford made a report for the Committee of Arrangements for the meeting of the Ohio State Medical Association.

A general discussion was entered into by the members present as to the general policy to be followed by the Program Committee.

On motion Doctor G. E. Follansbee was elected to fill out the unexpired term of Doctor R. F. Skeel.

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## BOOK REVIEWS

**On Dreams.** By Sigmund Freud. Translated by M. D. Elder; 110 pages, 12 mo. Paul B. Hoeber, New York, 1915. Price, \$1.00.

When this short essay, achieved in book form, has been completed the reader has a quickened sense of the dramatic nature of medicine and of its romantic possibilities. The author has here brought his theories and their sources and explanations together into a most delightfully readable form. The theories are ingenious and although not generally accepted, they have been the foundation of methods of treatment in mental cases which have assuredly in many cases been successful. That the success may come from other reasons than those given by Freud does not lessen the charm of his ideas nor the interest they have aroused. The further developments along these lines, the psychology of dream life and the relation existing between past psychological states and present mental pathological conditions, will be watched with active interest by those who have read this exciting little volume of Freud's. H. H.

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**The Practice of Pediatrics.** By Charles Gilmore Kerley, Professor of Diseases of Children in the New York Polyclinic Medical School and Hospital; Attending Physician to the New York Nursery and Child's Hospital; Assistant Attending Physician to the Babies' Hospital, etc. Illustrated. W. B. Saunders Company, Philadelphia and London, 1914. Price, \$6.00.

Doctor Kerley has followed his previous work, "The Treatment of Diseases of Children," by a more elaborate volume, "A Practice of Pediatrics." The larger volume adds another to the large number of such books which have been published in recent years, but it is by no means a superfluous one. The book is well planned and executed and should be a distinctly valuable work for the student or practicing physician. There are many practical suggestions, often omitted in the usual textbook and sections upon gymnastic therapeutics and upon drug dosage which are frequently missed. Following the trend of the American Schools of infant feeding, Kerley has practically ignored the calorimetric principles in infant feeding. He says "the calorimetric standard is to me a means of little utility in infant feeding, and infants whom I see cannot be thus fed to the best advantage." A very short exposition of the method is given. This was only inserted at all because of criticism of its absence from his former textbook. This attitude upon Doctor Kerley's part is distinctly foreign to the advanced position he takes upon other matters and the scientific breadth of his viewpoint in general. It is a distinct detriment to the worth of the book. H. H.

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**Lead Poisoning.** Sir Thomas Oliver, M. A., M. D., M. R. C. P., Consulting Physician, Royal Victoria Infirmary, and Professor of the Principles and Practice of Medicine, University of Durham College of Medicine, Newcastle-Upon-Tyne; Late Medical Expert, Dangerous Trades Committee, Home Office. Paul B. Hoeber, New York, 1914. Cloth. Price, \$2.00.

A series of lectures delivered at the Royal Institute of Public Health. From the Industrial, Medical and Social Point of View.

A small volume of 294 pages, giving a very readable discourse on the widespread and ever-increasing usage of lead in the arts and manufactures, the dangers to the workers with it, and the provisions to safeguard them.

Lead poisoning, acute and chronic, its effect on the general organism, special organs and tissues, are discussed in an authoritative manner.

The work will prove of value to one who wishes to orient himself quickly and reliably on this most interesting metal, and in a medico-legal sense as well, especially in that class of cases of doubtful integrity, grouped under so-called personal damage suits. J. G. S.

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**Educational Hygiene.** Edited by Louis W. Rapeer, Ph.D.; pp. 650. Charles Scribner's Sons, New York, 1915. Price, \$2.25.

This volume makes a valuable addition to the literature dealing with the health of those who are attending our educational institutions. The importance of preserving the health of our school children is being realized as never before, and this is essential for the success of the whole movement for better public health. So the book in every way is very timely.

The chapters of this volume are written by a number of specialists and brought together under the editorship of Doctor Rapeer. This procedure tends to produce some repetition and some lack of uniformity. This, however, is not a serious objection and very probably is compensated for by the advantage of obtaining more than one person's viewpoint upon the subject.

The book is well arranged and the material is presented in a logical manner. The following are the main divisions of the book: Health sociology, the administration of educational hygiene, the divisions and practice of educational hygiene, and the hygiene of the college.

The first part deals with the sociological aspects of the subject. In this connection the public health movement as a whole is discussed, and the vital relation educational hygiene bears to it is brought out. Educational hygiene is defined as "all agencies for the promotion of health measures," and in the sense used in the book, "as the name given to all the phases of health promotion work which may be and are undertaken by schools." The public health movement is surely sorely in need of the assistance of such educational hygiene. The discussion of the public health movement is interesting, instructive and up-to-date. The fact that there is a lack of uniformity in health laws and that there is no scientific standardization of health work is ably and justly emphasized. The socialization of health work is urged, and the authors see no danger in socialized medicine. Needless to say the view is taken that the school should serve as a social center for the community.

In the second part the administration of educational hygiene is well presented. A scheme is given for initiating a system of educational hygiene in the school. The value of efficient organization is emphasized, also the vital need of securing adequately trained administrators and assistants. In this connection one cannot help praising the admirable qualifications which are drawn up as necessary for an educational hygienist or supervisor of health. The position is taken that the health work of the schools should be under the board of education rather than under the board of health. After reading this book one is inclined to believe that this procedure is correct. The great importance and value of the trained nurse in the work and organization of educational hygiene is particularly and rightly emphasized.

The third part has five subdivisions as follows: Medical supervision of schools, school sanitation, physical education, the teaching of hygiene, and the hygiene of instruction. All of these subdivisions are ably handled, and the material is presented in an interesting and instructive manner.

The fourth part deals with the health activities of women's and men's colleges.

The book is well written and on the whole reads very easily. It is attractive in appearance and is printed on a fair quality of paper in good type, and is interestingly illustrated. The book deserves a great deal of commendation for the extensive references which are given on the subject of school hygiene. Not only is an extensive bibliography given, but there are numerous references to agencies and organizations from whose experience valuable information can be obtained.

The reviewer can heartily recommend the book to those who are looking for an authoritative work on the subject of educational hygiene.

G. E. H.



## ACKNOWLEDGMENTS

**Diseases of the Skin.** By Henry H. Hazen, A. B., M. D., Professor of Dermatology in the Medical Department of Georgetown University; Professor of Dermatology in the Medical Department of Howard University; Sometime Assistant in Dermatology in the Johns Hopkins University; Member of the American Dermatological Ass'n. Two hundred and thirty-three illustrations, including four color plates. C. V. Mosby Company, St. Louis, 1915. Price, \$4.00.

**Theory and Practice of Bloodletting.** By Heinrich Stern, M. D., LL. D., Visiting Physician, St. Mark's Hospital; Consulting Physician, Methodist Episcopal (Seney) Hospital; Founder and Editor of the *Archives of Diagnosis*; Formerly Chairman, Section on Pharmacology and Materia Medica, American Medical Association, etc. Rebman Company, New York, 1915. Price, \$2.50.

**Nitro By Hypo.** By Edwin P. Haworth, Superintendent of The Willows Maternity Sanitarium. The Willows Magazine Company, Kansas City. Price, \$1.00.

**The Practical Medicine Series, Vol. IX—Skin and Venereal Diseases.** Edited by Oliver S. Ormsby, M. D., and James Herbert Mitchell, M. D. The Year Book Publishers, Chicago. Series 1915. Price, \$1.35.

**The Practical Medicine Series, Vol. X—Nervous and Mental Diseases.** Edited by Hugh T. Patrick, M. D., and Peter Bassoe, M. D., The Year Book Publishers, Chicago, Series 1915. Price, \$1.35.

**Speaking of Operations.** By Irvin S. Cobb, Author of "Back Home," "Europe Revised," etc. Illustrations by Tony Sarg. George H. Doran Company, 1915. Price, 50 cents, net.

**Dinner Tendered to Irvin S. Cobb.** Waldorf-Astoria Hotel, April 25, 1915. George H. Doran Company, 1915.

**The Medical Clinics of Chicago, Vol. I, No. 4.** January, 1916. Published bi-monthly by the W. B. Saunders Company, Philadelphia and London. (Six Numbers a Year, \$8.00.)

**Painless Childbirth, Eutocia and Nitrous Oxid-Oxygen Analgesia.** By Carl Henry Davis, A. B., M. D., Associate in Obstetrics and Gynecology, Rush Medical College in Affiliation with the University of Chicago; Assistant Attending Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago. Forbes & Company, Chicago, 1916. Price, \$1.00.

**A Brief Bibliography of Books in English, Spanish and Portuguese, Relating to the Republics Commonly Called Latin-American, with Comments.** By Peter H. Goldsmith, Director of the Pan-American Division of the American Association for International Conciliation. MacMillan Company, New York, 1915.

**Treasury Annual Reports for 1915.** United States Public Health Service. Government Printing Office, Washington, D. C.

**Post-mortem Examinations.** By William S. Wadsworth, M. D., Coroner's Physician of Philadelphia. With 304 Original Illustrations. W. B. Saunders Company, Philadelphia and London, 1915. Price, cloth, \$6.00; half morocco, \$7.50, net.

**A Manual of Hygiene and Sanitation.** By Seneca Egbert, A. M., M. D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia; Member of the Academy of Natural Sciences of Philadelphia. Sixth Edition, Enlarged and Thoroughly Revised. Illustrated with 141 Engravings and 5 Plates. Lea & Febiger, Philadelphia and New York, 1916. Price, cloth, \$2.25, net.

**A Treatise on the Principles and Practice of Medicine.** By Arthur R. Edwards, A. M., M. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine, and Dean of the Faculty in the Northwestern University Medical School, Chicago. Third Edition, Thoroughly Revised and Rewritten. Illustrated with 80 Engravings and 23 Plates. Lea & Febiger, Philadelphia and New York, 1916. Price, cloth, \$6.00, net.

**Surgical Operations With Local Anesthesia.** By Arthur E. Hertzler, A. M., M. D., Ph. D., F. A. C. S., Surgeon to the Halsted Hospital, Kansas; Swedish Hospital, Kansas City, Mo.; General Hospital, Kansas City, Mo. Second Edition, 327 pages; 173 Illustrations. Surgery Publishing Company, New York, 1916. Price, cloth, \$3.00.

**A Textbook of the Practice of Medicine.** By James M. Anders, M. D., Ph. D., LL. D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College, Philadelphia. Twelfth edition, thoroughly revised. Octavo of 1336 pages, fully illustrated. W. B. Saunders Company, Philadelphia and London, 1915. Price, cloth, \$5.50 net; half morocco, \$7.00 net.

**A Manual of Pathology.** By Guthrie McConnell, M. D., formerly Professor of Pathology and Bacteriology, Temple University, Medical Department, Philadelphia. Third revised edition. 12 mo. volume of 585 pages, illustrated. W. B. Saunders Company, Philadelphia and New York, 1915. Cloth, \$2.50 net.

**American Illustrated Medical Dictionary (Dorland).** A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology, and kindred branches; with new and elaborate tables. Eighth revised edition. Edited by W. A. Dorland, M. D. Large octavo of 1135 pages, with 331 illustrations, 119 in colors. Containing over 1,500 more terms than the previous edition. W. B. Saunders Company, Philadelphia and London, 1915. Flexible leather, \$4.50 net; thumb index, \$5.00 net.

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**Potassium Iodid Elimination.**—W. H. Wovschin, New York (*Journal A. M. A.*, Sept. 25, 1915), reports his studies on the elimination of potassium iodid by the urine. He took patients of the general ward type at the hospital, giving them 1 gram of potassium iodid and later examining the urine day after day, until the last trace had disappeared. For comparison, whenever possible, the same patient was given a similar quantity of the drug per rectum and the urine treated in the same manner as before. He describes his technic and remarks that it is to be noted that the greater part of the eliminated potassium iodid is excreted in the first twenty-four hours. From 5 to 10 per cent is given off the second day and a mere trace, or none at all, on the third. As expected, the amount of potassium iodid excreted never equaled or even approximated the amount given, indicating that other methods of elimination, the skin, saliva, et cetera, excreted a considerable proportion and perhaps the product is utilized in thyroid protein molecularization. Patients who spit up a good deal excreted less iodid in the urine. In nephritic cases the excretion is the lowest, compared with other diseases, and when the drug was given in nephritic cases per rectum, there was a more notable elimination, credited perhaps to slower absorption and renal stimulation. In four pneumonia cases all the iodid excreted was on the first day. The blood pressure seemingly has no influence. Given by rectum to comatose patients, the same result followed as when given by the mouth. In one patient who later recovered consciousness a trace of potassium iodid was found in the spinal cord fluid. It could not be determined whether those patients who suffer from toxic and skin symptoms were those who excreted little through the urine. Some patients could not retain proctoclysis and only mouth determinations could be made.

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## THE ANNUAL MEETING OF THE CLEVELAND MEDICAL LIBRARY ASSOCIATION

The annual meeting of the Cleveland Medical Library Association was held at the Library December 13, 1915, with Dr. F. E. Bunts in the chair, owing to the illness of the President.

The report of the Treasurer showed the following:

### Receipts

Balance on hand at last annual meeting.....	\$ 423.97
Membership dues .....	2,510.00
Interest from various funds.....	1,297.38
Miscellaneous receipts .....	939.89
	<hr/>
Total.....	\$5,171.24
Expenditures .....	4,612.69
	<hr/>
Balance on hand.....	\$ 558.55

The annual report of Dr. C. A. Hamann, Director Library, shows that there are at present in the library:

Bound volumes, general works.....	9,254
Bound volumes of Journals.....	6,641
Unbound volumes of Journals.....	2,769
Reports and transactions.....	2,764
	<hr/>
Total number volumes.....	21,428
Pamphlets and theses.....	10,849

The represents an increase of:

Bound volumes, general works.....	338
Bound volumes of Journals.....	515
Unbound volumes of Journals.....	114
Reports and transactions.....	34
Pamphlets and theses .....	144
Volumes of Journals bound.....	515

Visitors registered during 1915, 1,346, an increase of 240 over the previous year. Books and journals loaned for the use of members, 1,465, an increase of 234. No note is made of the number of books and journals taken from the shelves for the use of members.

The total number of journals received is 238. Many of the foreign journals have suspended publication since the war began. The library receives, through the exchange of the *Cleveland Medical Journal*, 114 journals, many of which are the best of their kind published. Fifty-two volumes of those which were sent to the *Journal* for review have been turned over to the library by the reviewers. The library completed its files of the *Journal of Infectious Diseases*, the *Proceedings of the Society for Experimental Biology and Medicine*, and three new publications have been added, *The Journal of Parasitology*, *Archives of Radiology and Electrotherapy*, and *The American Journal of Reontgenology*.

The chief item of interest in the report of the Finance Committee was the first formal announcement to the association of the bequest to the library of the Dudley P. Allen fund of \$200,000. This fund, as has been previously announced, is to be held in trust by the Cleveland Trust Com-

pany, and its income is to be paid to the library for purposes of maintenance as long as the library continues as a medical library and enters into no alliance with other organizations or institutions which shall seek to dominate its activities or the use of its funds for other purposes than that for which it was originally incorporated.

There are at present in the library the following endowment funds:

Fund		Income 1915
General Endowment Fund.....	\$ 10,135.00	\$ 523.81
Rosenwasser Fund .....	10,000.00	565.58
Weber Memorial Fund.....	3,300.00	185.71
Dudley P. Allen Fund.....	203,487.00	11,439.00 (estimated)
<hr/>		<hr/>
Total endowment .....	\$226,922.00	\$12,714.10

The report of the Secretary shows that at present there are 256 members. There were four deaths during the year past—Dr. Dudley P. Allen, Dr. J. H. Lee, Dr. Hunter H. Powell, Dr. Mark Stevenson of Akron, Ohio.

The present officers of the association are: Dr. J. P. Sawyer, President; Dr. A. Peskind, Vice President; Dr. H. L. Sanford, Secretary; Dr. W. E. Bruner, Treasurer; Dr. C. A. Hamann, Directing Library. The five trustees, elected this year to serve for three years, are: Dr. H. A. Becker, Dr. J. H. Belt, Dr. C. L. Cummer, Dr. C. E. Ford, Dr. W. E. Lower.

### SPECIAL MEETING OF THE MEDICAL LIBRARY ASSOCIATION

On account of the death of its President, Dr. Benjamin L. Millikin, a special called meeting of the Medical Library Association was held at the Library on January 27th to elect a President. The Nominating Committee reported the name of Dr. J. P. Sawyer and the election was made unanimous.

A committee, consisting of Dr. J. P. Sawyer and Dr. F. E. Bunts, appointed at a previously held Trustees meeting, presented the following resolutions on the deaths of Dr. B. L. Millikin and Alvin S. Storey. They were unanimously adopted by the Association and will become a part of its records. It was also voted that they be transmitted to the families of these members and that they should be printed in the *Cleveland Medical Journal*. These resolutions appear in the editorial section of the January issue of the *Journal*.

**Bone Transplant.**—M. S. Henderson, Rochester, Minn. (*Journal A. M. A.*, Jan. 15, 1916), gives the history of the case of a girl, aged six, who had had a subperiosteal resection of the entire shaft of the left tibia two months after an acute attack of osteomyelitis. Nonregeneration occurred and on February 14, 1913, a piece of bone 4½ inches long and three-eighths inch wide was transplanted from the other tibia with apparent success. Between three and four months later, however, the child stepped rather heavily on the left foot while playing and a fracture of the bone recurred. A second transplantation was made of a piece of bone 2½ inches long by three-eighths inch over a year later with full success as regards restoration of function. The article is considered worthy of note because it emphasizes the fact that nonregeneration frequently occurs after subperiosteal resection. This patient has had to have three operations, but now has a perfectly normal tibia. It is difficult, Henderson says, to decide on the proper time for operation. It would be better to remove the entire shaft and eradicate the disease if we could be at all sure that regeneration would occur. The article is illustrated by roentgenograms.



**Relation of the Hospital to the Community.**—Winford Smith, Baltimore (*Journal A. M. A.*, Oct. 30, 1915), says the importance of the hospital to the community is well recognized but, strange as it may seem, there exists the greatest differences in standards, in fundamental principles, in organization, and in scope of work, with a vast amount of ignorance on the part of the public, physicians and hospital administrators as to what hospital efficiency means. The only one common factor of all is the purpose of trying to make sick people well. In America we have two main types of hospitals—the semipublic or endowed and the municipal or city hospital. It can be said without fear of contradiction that those that have done the best work, that have contributed most to medical education and medical science and have been managed with the best results in the interests of the patients have been the endowed hospitals. The municipal hospitals for the most part have been and are still interfered with by local politics, medical and otherwise, are insufficiently staffed, insufficiently supported and poorly managed. In England we find a somewhat similar condition, most hospitals there being supported by subscriptions. In Germany the majority and the best hospitals are supported by the state or municipality and used for the broadest purpose of service. In that country medical education and research are encouraged and supported. Our hospitals here serve two classes—the poor who cannot pay and those who can. In England adequate provision is made only for the poor. One of their greatest needs there, according to Sir William Osler, is that provision be made in the general hospitals for the well-to-do as well as the poor. In Germany the condition has been until comparatively recently somewhat the same. Smith asks, What is the rational basis of support and the scope of the work in this country? The state or city provides for the insane, the defectives and those suffering from tuberculosis. The cities provide for the care of contagious diseases and for a limited number of the poor, the majority of whom must get hospital attention from private philanthropy. Our system has worked fairly well with the burden thus unequally divided, but the public hospitals are subject to the whims of legislatures and are not managed in accordance with business principles or equity. The cost of hospitals is increasing every year and while it is desirable to continue our endowed hospitals and encourage philanthropy, it is necessary to say that the state and municipal authorities must also recognize their responsibility. Hospitals should not be altogether charitable institutions to serve the fullest needs of the community; they should provide, for those who can afford to pay, at least as good service as they furnish to those who cannot. The hospital should also be an educational factor of the greatest importance to the community, sending out skilled practitioners, and it should also give the public the benefit of all the scientific advances which can aid. The education of nurses is also mentioned by Smith as an important service to the public, also the need of a private or semiprivate service for persons of moderate means who now do not obtain what they should have in this way. This should be provided for without limiting or encroaching on the funds given for the benefit of the poor. Special endowments are needed for this purpose and it is a matter that deserves the careful consideration of hospital authorities. In line with this is the question of a pay clinic or dispensary for the same class, and there should be one or two of these at least in every large city, where the services of specialists can be given and the patient should be able to receive what he needs at a cost within his means. Another point that deserves attention is the provision for patients after discharge as regards the care of themselves and their employment in the future, and while he does not think this is exactly a problem for the hospital, there should be some agency to provide for it. We have had examples of the possibilities in this line in the institutions for the blind, Dr. Hall's Marblehead institution and Dr. Jaeger's Hospital of Hope in New York. The work should be based not on appeals to the sympathy of the employers but on demonstrating the fitness of the individual for his work, and Smith wishes to urge the importance of this matter.

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## THE TREATMENT OF EXTRA-UTERINE PREGNANCY

By AIME PAUL HEINECK, M. D., Chicago, Ill.

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Extra-uterine gestation is of far more frequent occurrence than we believe. The operative treatment of this distinctly surgical condition can be discussed more intelligently after we have become familiar with the possible terminations of an ectopic pregnancy abandoned to the unassisted resources of nature.

An extra-uterine (tubal, ovarian or tubo-ovarian) pregnancy may go to term, and a living child be delivered, through channels created by the surgeon. In connection with this termination, one must keep in mind that extra-uterine children frequently die in the first few days of life; many of them have lived only a few hours. They are frequently the subjects of deformity. The operation necessitating their removal from the maternal organism may prove fatal to them. It may prove fatal to the mother, either immediately, from surgical shock or excessive hemorrhage, or remotely, from toxemia, septicemia, or pyemia.

The child may go to term, remain undelivered, and die, persisting in the maternal organism.

The foetus may die previous to term. Small embryos when expelled into the peritoneal cavity are promptly absorbed unless the placenta retains a firm attachment to the tube. Foetuses that die at an advanced state of development cannot be absorbed.

The ectopic foetus may:

- a. Putrefy.
- b. May become septic: 1. From communication with neighboring organs; 2. From contiguity with neighboring organs.
- c. May become converted into a friable fatty substance, then constituting what is known as an adipocere.



*d.* May be transformed into a lithopaedion, of which three chief types are distinguished.

*e.* May become encysted by a connective tissue membrane, and remain quiescent for a time or permanently.

*f.* The foetal cyst: 1. May be merely a mechanical inconvenience to the maternal organism. 2. May mechanically interfere with a subsequent intra-uterine pregnancy, and may have to be removed to allow an intra-uterine pregnancy to go to term. 3. It may irritate contiguous organs, excite rectal tenesmus, vesical tenesmus, painful micturition, etc., or determine pressure symptoms; intestinal obstruction by compressing the intestines; urinary retention by compressing the bladder or ureters, or cause various displacements of the uterus. It may cause errors in diagnosis.

*g.* After the death of the foetus, the gestation-sac may be considered as a cyst—a foetal cyst. After death, the liquor amnii is absorbed. No more is secreted. The cyst shrinks. The walls may, and frequently do, become adherent to surrounding organs or to surrounding tissues, viz., bladder, vagina, intestinal canal or abdominal wall, by either or by several of which channels the cyst may eventually, completely or incompletely, eliminate its decomposed contents. Hence the cyst may rupture: 1. Into the bowel, by one or several openings. 2. Into the vagina. 3. Into the urinary bladder, and the foetal bones and other cyst contents be expelled per urethram. 4. Into the rectum, and the foetal bones and other cyst contents be expelled through the anus. 5. Into the uterus. 6. Into a cyst of other nature contained in the abdominal cavity. 7. Through the abdominal wall. 8. The foetal cyst may open and be eliminated through more than one channel in the same patient.

Rupture of the gestation-sac may take place before or after the death of the foetus. J. B. Sutton says that primary rupture takes place in the majority of cases between the third and the tenth week. Rupture is one of the terminations of tubal pregnancy, be the pregnancy tubo-uterine, intramural, isthmic, or ampullary, etc. Ovarian pregnancies are subject to the same accident. Primary or secondary gestation-sacs may rupture. The gestation may be arrested by this accident, or it may continue uninterrupted, though changed in type. The rupture is associated with hemorrhage, slight or profuse, circumscribed or diffused, belonging to one of the three following types, or to a

combination of two or of all these types: *a.* Extra-tubal; *b.* Intra-tubal; *c.* Intra-mural. If the amniotic sac be ruptured and there be an outflow of the amniotic fluid, gestation will come to an end.

Extra-tubal rupture may occur: *a.* Into the peritoneal cavity; if the ovum does not perish, the pregnancy will be continued as a tubo-peritoneal or peritoneal pregnancy. *b.* Between the folds of the broad ligament. Pregnancy may here continue as an intraligamentary pregnancy, called by some authors a tubo-abdominal pregnancy. Intra-ligamentary pregnancy is far more infrequent than peritoneal pregnancy. *c.* An intra-mural rupture may lead secondarily to an intra-tubal or extra-tubal rupture. In intra-mural rupture, a thin layer of muscle tissue and peritoneum separates the blood-sac from the peritoneal cavity. It may be compared to the condition that obtains when a saccular aneurysm ruptures and the blood escapes interstitially. Intra-tubal rupture may, if the abdominal opening of the tube be occluded, lead to an accumulation of blood in the cavity of the tube, viz., haematosalpinx. If the abdominal end of the tube be not occluded, the blood passes out of the tube into the peritoneal cavity, giving us a pelvic haematocele or a haemoperitoneum. The ovum, continuing to develop in the tube, may secondarily rupture, either into the peritoneal cavity or between the folds of the broad ligament, and gestation therein continue. If one variety of rupture fail to relieve the tension, the gestation-sac will probably rupture in another direction. The ovum may be carried out of the tube by the intra-tubal hemorrhage, giving us the condition of tubal abortion. The hemorrhage that attends and follows rupture usually requires immediate surgical interference.

We then have a most alarming complication of tubal or ovarian ruptures, hemorrhages, small or large. The amount of blood discharged bears no relation to the extent of the rupture. Severe hemorrhages can occur from very small orifices. The rupture may be punctiform in size; may be a large tear; may be almost a complete rending of the tube. Rupture into the peritoneal cavity may lead to the formation of haematocele, or to a flooding of the peritoneal cavity; the latter will cause the patient's death if the hemorrhage be not operatively arrested. There may be one severe and perhaps fatal intra-peritoneal hemorrhage, or there may be recurring hemorrhages, causing maternal death. Intra-peritoneal hemorrhage due to a ruptured ectopic gestation-



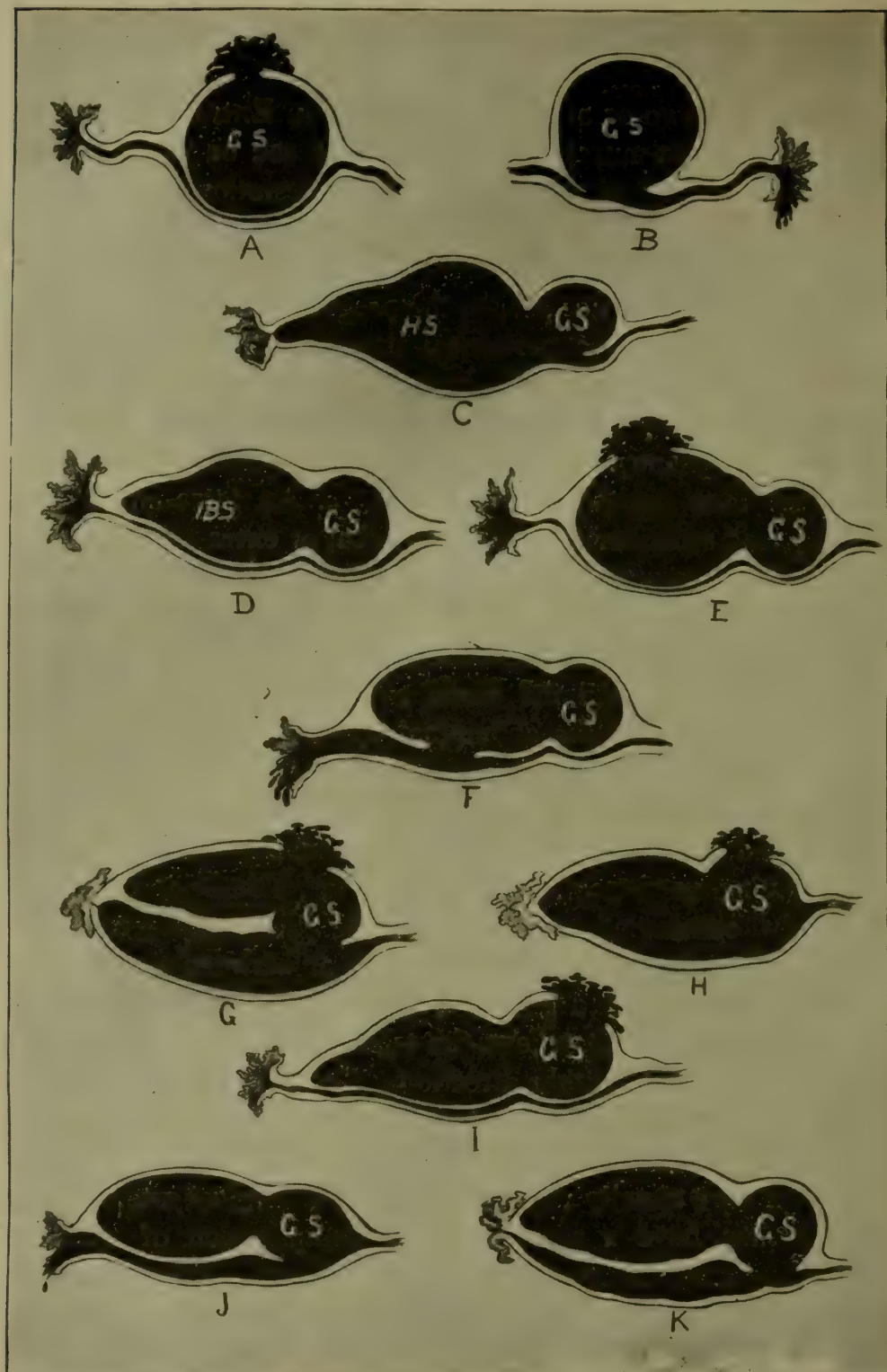


FIG. 1

- A—Extratubal rupture of gestation-sac. Escape of blood into peritoneal cavity.  
 B—Intratubal rupture, with escape of blood into peritoneal cavity through ostium abdominale of Fallopian tube.  
 C—Intratubal rupture, with retention. Haematosalpinx.  
 D—Intramural rupture. A layer of muscular tissue intervenes between the blood-extravasate and lumen of tube.  
 E—Intramural rupture, with blood-sac opening into peritoneum.  
 F—Intramural rupture, with blood-sac opening into lumen of tube.  
 G—Combined intratubal and extratubal and intramural rupture.  
 H—Combined intratubal and extratubal rupture.  
 I—Combined intramural and extratubal rupture.  
 J—Combined intramural and intratubal rupture, with escape of blood into peritoneal cavity.  
 K—Combined intramural and intratubal rupture, with retention of blood into lumen of tube.  
 GS—Gestation-sac. HS—Haematosalpinx. IBS—Intramural blood-sac.

sac has the same gravity as intra-abdominal hemorrhages due to other causes. The signs and symptoms of acute anemia are quickly produced.

If the extra-tubal rupture be between the folds of the broad ligament, the extravasation and accumulation of blood therein will separate these folds, and a pelvic haematoma will be produced. This haematoma is almost invariably one-sided, and, needless to say, is on the side of the rupture. In some cases, however, it may dissect forward between the uterus and bladder, or backward around the uterus beneath the peritoneum and extend to the opposite side. In those cases where the tension within the haematoma is sufficiently great, rupture may take place into the peritoneal cavity, giving us the combined condition of both intra-peritoneal and extra-peritoneal hemorrhages. The same may occur in a haematosalpinx. The excessive tension may lead to extra-tubal rupture into the peritoneal cavity, or between the folds of the broad ligament, or in both directions. The hemorrhage associated with the rupture of a tubal or an ovarian gestation-sac may, in itself, prove fatal, may lead to formation of a pelvic haematoma, or to the formation of a pelvic haematocele. These encysted blood collections—haematomata or haematoceles—may be and frequently are partially or completely absorbed, may persist as fibrous bands or masses, may become infected and thus be the seat of a suppurative inflammation. If the inflammation remain circumscribed, an abscess is formed. If the inflammation spreads to, or if the abscess bursts into the peritoneal cavity, a circumscribed or diffused suppurative peritonitis results. If the inflammation extends to the retro-peritoneal connective tissues, a cellulitis results, with all its accompanying dangers.

The migration of the ovum into the abdominal cavity, through the ostium abdominale, is known as tubal abortion (Bland Sutton). We may have tubal abortion. Tubal abortion may also lead to haematosalpinx. Usually, however, the blood escapes freely through the ostium abdominale into the cul-de-sac of Douglas, and either becomes encysted there, or escapes into the general peritoneal cavity.

In the early stages, abortion and rupture are due directly to the destructive action of the trophoblasts on the peritoneal and mucous surfaces. They can be indirectly due to increase of tension caused by hemorrhages from vessels, the walls of which have



been destroyed by the ectoblastic cells. Tubal abortion may be complete, or may be incomplete. In the former, there is usually one attack of pain and weakness. In the incomplete form, we have repeated attacks of weakness. The abortion, if the amniotic sac remains intact, and if the ovum resists absorption, leads to a tubo-peritoneal or peritoneal pregnancy. If the villi or placental attachments are destroyed, the ovum, being unable to form secondary attachments to other structures, dies. The expulsion of the uterine decidua does not imply the death of the extra-uterine foetus.

### Treatment

We assert without the least hesitancy that this is as truly a surgical disease as appendicitis, and though, as in this disease, a clinical cure may at times be obtained by non-operative measures, it is not common for that clinical cure to be an anatomical cure. We maintain with emphasis that the most conservative treatment is that which saves the most human lives. In ectopic pregnancy, the viability of the child should not be considered, except as it endangers the life of the mother. The extra-uterine foetus is a parasite, a malignant new growth. We must destroy the foetus to save the mother. From the standpoint of treatment, we must consider: 1. Will the patient live—*a*. If she be abandoned to nature; *b*. If she be operated on; and, 2. Are the dangers incident to opening the peritoneal cavity less than those of rupture of the gestation-sac. Without surgical aid, extra-uterine pregnancy always terminates fatally to the child, and frequently causes the mother's death.

Nature's tedious methods of relief, and the many dangers to which the woman is obviously exposed during its occurrence, justify surgical interference. Even the absorption of large uninfected collections of blood is far more prolonged than post-operative convalescence.

In the hands of the average operator, the only possible dangers to which the mother is exposed by the operative removal of the dead or live ectopic foetus are sepsis, hemorrhage, and shock. The first can be avoided, the second can be completely controlled, and the third can be minimized and almost always overcome.

Some operators make use of the terms "primary laparotomy" and "secondary laparotomy." In the former, the operation is performed during the life of the foetus. It is in accord with the

theory and practice of modern surgery. It attacks tissues while they are healthy, in preference to awaiting nature's blind efforts to improve conditions. Secondary laparotomy is the operation performed after the death of the foetus. Grandin and Jarman, in discussing operative treatment, say: "The almost absolute mortality-rate of the past has been converted into the almost certain recovery-rate of the present."

The diagnosis of ectopic gestation is in itself an imperative indication for operation. Lives can be saved by accurate diagnosis, prompt decision, and skillful operation. The profession in general has not exhibited that keenness and alertness toward extra-uterine pregnancy which has characterized its study of appendicitis in the past few years.

The first indication is to stop the hemorrhage. This indication is urgent. Hypodermic medication will not accomplish it. To stop this hemorrhage, you cannot depend upon the coagulability of the blood, upon the lessened force of cardiac action; upon such agents as heat, cold, styptics, and the like. You must open the abdomen; you must stop the hemorrhage at its source by ligating bleeding-points with aseptic absorbable ligature material, if you have it at hand, with antiseptic or aseptic non-absorbable ligature material, if the former be not at hand.

Even in the absence of urgent symptoms, do not delay operation. As long as the embryo or foetus lives, the placenta increases daily in size, in vascularity, and in difficulty of removal. Furthermore, every day, the increasing size of the child and of the placenta adds to the danger of secondary rupture.

Having decided to operate, two pathways are open: 1. Through the vaginal wall. 2. Through the abdominal wall. In some difficult cases you may have to use both, the abdominal and the vaginal route. We recommend the vaginal route in only one condition, viz., pelvic abscess—when the gestation-sac has been converted into a pelvic abscess, where suppuration has occurred in an intra-ligamentary foetal cyst, or in all intra-ligamentary haematoma. The opening of the pelvic abscesses by way of the vagina is a safe and wise surgical procedure. The results are almost always very satisfactory. 2. In those cases where the foetal parts closely press against the vaginal wall. Even here it may be necessary to make use of the abdominal route, in addition to the vaginal route.



Under all other conditions, in the absence of a contra-indication, we recommend that the abdominal route be employed, because the operator is enabled: 1. To remedy at the same time coexisting pathological conditions, as hydrosalpinx, obliteration of the abdominal ostium of the unaffected tube, etc. 2. To arrest the hemorrhage with greater rapidity. 3. To secure a more complete and a more careful haemostasis. 4. To make a more direct examination. To judge better the extent of damage, and thereby make a more accurate diagnosis. 5. To make a more conservative ablation of organs, and to have the operative field under better control. 6. To more quickly come in contact with the condition, and to remove better and more completely the foetal sac and its contents. The separated ovum may ascend in the abdominal cavity, and it may be very difficult to find and remove it by the vaginal route. An abdominal incision enables the operator in case of an incorrect diagnosis to treat those conditions that simulate ectopic gestation. In operating, sight, as well as touch, is a very useful aid.

The greatest difficulty that we encounter near term, at term, or after term, in operating for ectopic gestation, is connected with the removal of the placenta. A slight detachment of the placenta often results in alarming hemorrhage.

We make use of an incision about one-half inch to one side of the median line; the edges of the resulting wound are better adapted to our method of suturing the abdominal wall. Avoid cutting the epigastric vessels. Avoid cutting the urachus. Cutting into a patulous urachus is as significant as cutting into a urinary bladder. The cut must be repaired. Make use of the Trendelenburg position. The patient must be placed in this position gradually, not suddenly. The return to the horizontal posture must also be gradual. The Trendelenburg position facilitates the gravitation of the intestines towards the diaphragm. It permits a better view of the pelvic tissues or organs.

In all operations for extra-uterine gestation the opposite tube and ovary should be carefully examined. In a few instances, the condition is bilateral. Extra-uterine pregnancy in some individuals has recurred.

Never make a needless sacrifice of tissues or organs. In the absence of a positive indication, such as a highly contracted pelvis, preventing the birth of a living child, etc., never remove

the unaffected tube or ovary. As most extra-uterine pregnancies are tubal, early operation will permit the preservation of the ovary. The preservation of the ovaries is of benefit to the patient. Their removal causes the distressing symptoms of premature menopause.

The main difficulty in early and late operation is hemorrhage. The ideal treatment for hemorrhage incident to operations undertaken for the removal of ectopic gestation-sac is prophylaxis. Therefore, do not provoke uncontrollable hemorrhage. Proceed only after having well sized up the situation. Hemorrhage must be controlled by ligation or by compression of the bleeding points. A normal salt solution must not be given before the bleeding-points have been controlled or secured, either intravenously, subcutaneously, or per rectum. Once the bleeding-points have been controlled, its use is of signal benefit. It increases the volume of the circulating fluid. Do not close up the abdomen until you are satisfied concerning the haemostasis. These hemorrhages are most profuse if the foetus is alive at time of operation.

If possible, avoid denuded peritoneal surfaces. They are possible avenues of infection. After a unilateral ablation of the adnexae, suture to each other the folds of the broad ligament, from the superior pelvic strait to the angle of the uterus. Peritonization—that is, the covering with peritoneum of all denuded surfaces—lessens adhesion formation. These adhesions may be attended with colicky and other pains; may cause intestinal obstruction. Peritonization lessens hemorrhage; creates barriers capable of limiting the extension of inflammatory processes.

In attempting to remove the foetal sac and its contents, be careful, lest these efforts inflict much damage upon contiguous organs. Repair such damage before closing up the abdominal cavity.

The first condition, the treatment of which we will consider, is that of early unruptured ectopic pregnancy. In this case, there are usually no adhesions. If adhesions be present, they are separated, as in all other intra-abdominal surgical interventions, with great care and by the same methods. The incision (about three inches in length) is carried through the different layers of the abdominal wall into the peritoneal cavity. The incision is slightly to one side of the median line. It is an infra-umbilical incision. After the patient has been gradually placed in the



Trendelenburg position, the intestines and the general peritoneal cavity are walled off from the pelvic cavity by compresses of gauze. The first step is to locate the uterus.

Using the fundus of the uterus as a guide, and proceeding to the right and to the left, examine both tubes and both ovaries. Ectopic pregnancy is located with about as equal frequency on one side as on the other. Separate the gestation-sac from any adhesions, if such exist. Then remove the gestation-sac (which is usually tubal), as a whole, if possible, by a typical resection of the Fallopian tube involved. Suture the folds of the broad ligament together; leave no denuded peritoneal surfaces. Close up the peritoneal cavity. Post-operative treatment is that of uncomplicated laparotomy. If the pregnancy be ovarian in type, and be early and unruptured, do a typical ovariectomy. Accuracy and rapidity in operating is an essential in these cases as in any other intra-abdominal work.

If the gestation-sac is ruptured and hemorrhage has occurred or is occurring, after opening the abdominal cavity, wall off the general peritoneal cavity by gauze compresses. Again, immediately locate the fundus of the uterus. Determine on which side is the ruptured gestation-sac. Seize the uterus with the hand preferably or with a double tenaculum, thereby locating and keeping in view the most important landmark. When you have determined on which side the rupture is (it is usually tubal), apply a clamp at the uterine end of the tube. This will stop all further hemorrhage from the ovarian artery of that side. Apply another clamp immediately below the tube, compressing the folds of the broad ligament, but not injuring the ovary. Then remove the affected tube and the gestation-sac. Ligate all bleeding points, suture the folds of the broad ligament and the tubal surface of the uterine stump. Remove as expeditiously as you can the easily removable blood and blood-clots contained in the peritoneal and pelvic cavities. Remove the embryo if it can be found without prolonged search. Let there be no needless exposure, no needless traumatizing of the intestines. Under exposure, undue handling of the intestines intensifies operative shock, and may be followed by the aperistaltic form of ileus. Post-operative treatment is that of acute internal hemorrhage for which a laparotomy has been performed. Use normal saline solution *secundum artem*.

The most dangerous conditions, from the maternal standpoint, are those in which the foetus is alive; the hemorrhage then may prove fatal. In these alarming cases of hemorrhage, some authors have suggested that the abdominal aorta be compressed. If the placenta be attached to the line of incision, the hemorrhage will be profuse, but can be stopped by firm compression. In those cases in which the foetus is alive, we have two things to accomplish, and they must be accomplished with the preservation of the mother's life. The first thing to accomplish is the removal of a living child. The last and most important is the removal of the ovular débris; that is, the placenta, membranes, etc. We shall not often be called upon to operate in cases in which a living child is present. For a physician knowingly to abstain from operating in a case of extra-uterine pregnancy before it reaches term is, to say the least, injudicious. The best practice is to terminate these pregnancies early, or before the development of the ovum is much advanced.

Remove the foetus without disturbing the placenta. If the foetus is alive, the first thing to do after having opened the abdominal cavity and protected the peritoneal cavity by compresses from the outflow of amniotic fluid, is to remove the foetus, the umbilical cord having been ligated as in a normal pregnancy. Have the amniotic fluid escape externally as much as possible. Upon the maternal end of the umbilical cord a clamp is placed, the umbilical cord being cut either between the ligature and the clamp or between two clamps.

If the foetus has reached term or near term and is dead, there is some difference of opinion as to which operation is the preferable method—the immediate operation or the delayed operation—until the foetus has been dead for a month or longer. Our experience leads us to believe that the dangers attending delay are more than counterbalanced by the numerous dangers incident to the policy of expectancy, so that if the foetus is dead, be that death recent or of some standing, we will, after thorough preparation, incise the abdominal wall. Exceptionally, our incision carries us into the foetal sac. In such cases the peritoneal cavity will not be opened. This is liable to occur in some extra-peritoneal or broad ligament pregnancies. In this variety, the sac and placenta are entirely beneath the peritoneum. The latter may have been pushed up, even stripped for a considerable



distance from the anterior abdominal wall. We will hastily remove the foetus without disturbing the placenta, ligating the umbilical cord near the placenta. Evacuate the contents of the sac, and then attempt to remove the sac and the placenta together, after having separated them from the surrounding structures to which they may be adherent. Usually, our incision carries us into the peritoneal cavity. In this instance, the patient is gradually placed in the Trendelenburg posture. The adherent intestines, omentum, and other viscera are separated, if feasible, from the sac, by tearing the adhesions apart or cutting them between ligatures. Hemorrhage must be controlled as you proceed. The general peritoneal cavity is protected by gauze compresses, which are numbered and counted, and then the incision is carried into the ovum. Occasionally, you may be able to remove the ovum as a whole. If the placenta is not safely removable, if the nature of the adhesions of the surrounding organs to the ovum is such that their separation would prove disastrous, content yourself with evacuating the foetal cyst and then suturing its walls to the abdominal wound. The sac must be packed daily until the placenta has been expelled and the sac-cavity obliterated. If the placenta is to be left behind, it is better that it be not disturbed and made to bleed.

The following methods have been employed:

1. The foetus, the umbilical cord, and the amniotic fluid have been removed. Everything else has been left in situ and the abdominal wall closed. This is an extremely risky experiment.

2. The foetus is removed, and more or less of the sac is resected. Drainage of the cavity of the sac is employed, and the placenta and sac are left for spontaneous expulsion. This is the most frequently employed procedure.

3. After the removal of the foetus, umbilical cord, and amniotic fluid, the placenta is removed in part—so much of it as is easily separated—and the remainder is left to spontaneous absorption.

4. The placenta is left in situ after removing the foetus. Then, after the expiration of a certain time, the placenta is shelled out, when it is hoped that the blood-supply is spontaneously cut off.

5. The placenta and entire ovum are removed immediately. Ideal measure, if feasible.

6. The placenta and gestation-sac are removed at once, likewise the neighboring organs, the uterus and ovaries, providing the hemorrhage cannot otherwise be arrested.

7. Preliminary ligature of the uterine and ovarian arteries of the side from which the placenta receives its blood-supply, following by removal of the placenta.

There is no disputing the fact that the foetal sac and placenta should be removed completely if the procedure be consistent with the safety of the mother. The complete ablation of the ovum is theoretically the only perfect operation.

The method that we have had occasion to follow in those cases in which we feared to disturb the placenta is the following: After having incised the sac, we remove the foetus and other intra-ovulatory contents, and ligate the umbilical cord close to its implantation, resect a portion of the sac-wall and sew what is left to the abdominal wound. This closes off the general peritoneal cavity. It leaves us a large pouch, which we pack tightly with strips of aseptic gauze. Many authors employ iodoform gauze instead. We endeavor to keep the cavity of this sac aseptic until all the placenta sloughs out of the wound. The elimination of the placenta by this method takes from twenty to fifty days.

In some cases, a vaginal drain has to be used, in addition to the abdominal drains. The first strips of gauze that are inserted in the foetal sac are made to serve the offices of a compress and of a tampon. They are used to check the bleeding. After the first dressings, the gauze strips are used more with drainage in view. After the foetal cyst has been sewed to the abdominal wall, or immediately previous, according to the exigencies of the case, the compresses that have been used to protect the general peritoneal cavity are removed. Sewing of the sac-wall to the abdominal wound shuts off all communication between the cyst and the peritoneal cavity. We use No. 3 catgut to suture the sac-wall to the abdominal wall. In some cases it will be found necessary to irrigate this pouch during the subsequent dressings, with some astringent aseptic or antiseptic solution. The abdominal wound is closed as in those cases in which a Mikulicz drain is employed. Post-operative treatment, symptomatic.



Cobb, F.: The Management of the Grave Emergency Cases of Extra-Uterine Pregnancy, with a Study of 137 Cases of Tubal and Interstitial Pregnancy, at Mass. Gen. Hosp. *Ann. Surg.*, Phila., 1912, vol. 56, p. 835

Grimsdale, J. S.: Case of Ovarian Pregnancy With Full Time Foetus. *J. Obst. & Gyn.*, Brit. Emp., London, 1913, vol. 23, p. 115.

Purefoy, R. S.: A Case of Tubal Pregnancy Attended With Previous Symptoms Without Rupture. *Dublin J. M. Sc.*, 1913, vol. 135, p. 81.

Smith, W. S.: Extra-Uterine Pregnancy. Operation Three Months After Term; Recovery. *A. J. Obst.*, N. Y., 1913, vol. 87, p. 669.

Chaput: Grossesse tubaire à terme avec conservation de l'enfant pendant trois ans dans le ventre de la malade. *Bull. & Mém. Soc. Anat de Paris*, 1913, vol. 88, p. 479.

Proust: De l'intervention opératoire dans les grossesses tubaires. *Gaz. des Hop.*, Paris, 1914, vol. 87, p. 85.

Hénault, L.: Seize nouveaux cas de grossesse ectopique; quelques diagnostics différentiels. *Presse Méd. Belges*, Bruxelles, 1914, vol. 66, p. 143.

Mauclaire: Kyste fétal suppuré. *Bull. & Mém. de la Soc. de Chirurgie de Paris*, 1915, vol. 46, p. 1106.

Polak, John Osborn: Observations on Two Hundred and Twenty-seven Cases of Ectopic Pregnancy. *A. J. of Obst.*, 1915, vol. 71, pp. 946-952.

Anderodias, de Boucand and Roche: Récidive de grossesse tubaire; Hémorragie cataclysmique. *J. de Méd de Bordeaux*, 1913, vol. 43, p. 610.

Potherat, G.: A propos de deux cas de grossesse extra-utérine romque. *J. de Méd. de Paris*, 1913, vol. 25, p. 762.

Weiss and Sencert: Un cas de grossesse intra- et extra-utérine combinée. *Bull. Soc. d'Obst. et Gynéc. de Paris*, 1913, vol. 2, p. 648.

Péraire, M.: Grossesse extra-utérine droite romque avec coïncidence d'un kyste ovarien du même coté. *Paris Chirurgical*, vol. 6, p. 793-795.

Mauclaire, P.: Grossesse péritonéale: ablation par laparotomie; guérison. *Bull. & Mém. Soc. de Chi. de Paris*, 1915, vol. 41, p. 1106.

Sampson, John: The Influence of Ectopic Pregnancy Upon the Uterus With Special Reference to the Changes in Its Blood-Supply and Uterine Bleeding. *Surgery Gynecology & Obst.*, 1914, vol. 18, p. 587.

Smith, Richard: Final Results in 192 Patients Operated Upon for Ectopic Pregnancy. *Surg., Gyn. & Obst.*, 1914, vol. 18, p. 684.

## SELECTIVE SENSORY REGENERATION

I. H. Coriat, Boston (*Journal A. M. A.*, Feb. 5, 1916), gives a careful report of a case of ulnar nerve lesion in which the sensory symptoms were modified in a way which showed the independence of these nerve endings in the skin after complete severance and regeneration of the ulnar nerve. During the process of regeneration isolated pain points could be demonstrated in an otherwise completely anesthetic area, while inside this area they were so closely crowded together that they formed a zone of extreme hyperalgesia. Deep sensibility was intact. The condition proved that the specific receptors for pain were not only independent but were also more capable of rapid regeneration than the specific receptors for touch, thus making the case of special interest. The conclusion is drawn of the independence of the nerve supply of the skin from specific afferent receptors. The specific nerve endings for touch entirely disappear. The condition, as he says, is best termed a selective sensory regeneration.

## PTOMAIN POISONING FROM "CREAMED" CODFISH

By M. A. BLANKENHORN, M. D., G. E. HARMON, M. D., and PAUL J. HANZLIK, M. D., from the Medical Clinic, Lakeside Hospital, the Laboratory of Hygiene and Bacteriology, and the Pharmacological Laboratory, Western Reserve University, Cleveland.

On April 24, 1915, about eighty patients in the general wards and a number of the help in the kitchens of Lakeside Hospital were seized with alarming gastrointestinal symptoms in one and a half hours after eating the evening meal, with which had been served "creamed" codfish.\* It was definitely ascertained that the various individuals became ill as a result of partaking of the fish. Some of the material was obtained and it seemed worth while to make some physiological, bacteriological and chemical observations with it because of general medical and scientific interest in the subject of ptomain poisoning, which was suspected.

Symptoms arising from "ptomain poisoning" are attributed to numerous causes. Among the more popular are: (1) gastroenteritis due to bacterial infection; (2) effects of toxic chemical substances elaborated by bacteria; (3) bacterial infection and toxic substances combined. Finally, there are those who place little faith in any of these explanations and prefer to disbelieve ptomain poisoning altogether. Recent investigations upon a number of toxic bases which occur in and can be prepared from putrefied flesh and certain vegetable drugs, such as ergot, would seem to indicate that these might be concerned in ptomain poisoning. The effects of a number of these bases have been studied systemically and upon surviving organs. An attempt was made to study the effects of our material in this direction. The chemical identification of the active substances is difficult, but the properties of a number of the bases are now well known. This has also been attempted in a general way with our material.

No claim to originality for either the methods or ideas here presented is made. However, the mode of treatment used, it is believed, has not made a conspicuous inroad into clinical medical literature in the study of cases of ptomain poisoning. Those who are unfamiliar with the more recent aspects of the general subject of the physiologically active bases will find a clear and concise

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\*It should be mentioned that the salted fish used for the preparation of the "creamed" fish for the patients had been inspected by the Dietitian, as is her custom, and nothing unusual was found either in appearance or in odor.



presentation of the subject in a recent monograph by Barger (1), and in a work on toxicology by Gadamer (2).

1. Barger: *The Simpler Natural Bases*, 1914, Longmans, Green & Co., London.

2. Gadamer: *Lehrbuch der chemischen Toxikologie*, 1909, Vandenhoeck and Ruprecht, Göttingen.

### I—Onset and Symptoms

By M. A. BLANKENHORN

The following report is based upon the personal observation of sixteen cases in one ward of the hospital. The remaining cases were distributed among other wards and the kitchens, and the reported observations on these differed in no respect from the account given here. In all eighty individuals were seized with sudden and alarming symptoms of distress in the gastrointestinal tract. Many of the patients volunteered the information that they were poisoned by the fish which was served with their meal; and it was evident that the symptoms were confined to those who had eaten the "creamed" fish, and that none who had eaten it escaped. The relief of so large a number of patients demanded so great and rapid attention that detailed observations on many of the cases could not be made. However, a sufficiently large number was studied to justify the following descriptive summary.

The symptoms appeared in about one and a half to three hours after the food was taken. The most marked symptom was vomiting. This occurred in every case, usually being sudden and very severe, preceded by a "burning" in the epigastrium, and much nausea, and accompanied by exhaustion, varying from slight discomfort to a semicoma, lasting from two to five hours. The vomiting apparently bore no relation to the amount or quality of stomach content, for in some cases there was a large amount of macerated food ejected, in others variable amounts of a clear, watery secretion. In many cases the vomiting persisted long after the stomach had been emptied. In all cases the vomitus was described as "very sour and burning." In several cases the acidity of the stomach contents was titrated with the following results: 100 c.c. became neutral to phenolphthalein with 20 c.c. of deci-normal sodium hydroxide; only a trace of free hydrochloric acid was present; and there was no lactic acid. Eleven out of sixteen cases vomited material which resembled blood,

varying from just a visible trace of pink to dark red with masses resembling clots. No chemical tests for blood were made.

From one-half to two hours after the onset of vomiting there was intestinal colic and diarrhea; in some cases very slight, in others amounting to continuous purging for several hours. There were no evidences of fever, oedema, or skin disturbance.

Very little treatment could be instituted. Emetics and lavage with large quantities of water were administered to those who seemed to have difficulty in emptying the stomach. In a few cases castor oil or Epsom salts were introduced into the stomach after lavage.

All the patients were fairly comfortable at the end of twelve to twenty-four hours, except for a feeling of exhaustion and a loss of appetite. Practically all had recovered by the next day. Very sick patients had not received the fish food, and there were apparently no lasting consequences in those who ate it.

## II—Bacteriological Examination

By G. E. HARMON

The object of this examination was to ascertain if any organisms could be isolated from the "creamed" codfish which might have been concerned in forming toxins or poisons responsible for the symptoms observed in the patients. The usual routine procedures were used. The material was plated and grown anaerobically and aerobically.

No strictly anaerobic organisms were isolated. Those which were isolated by anaerobic methods could be grown in the presence of oxygen.

Numerous varieties of cocci were isolated. In view of the fact that cocci are thought not to be actively concerned in the production of putrefactive changes, no attempt was made to identify them definitely. Most of them were varieties of staphylococcus.

Four different kinds of bacilli were found and studied. Three of these were not identified, since a preliminary study of their characteristics showed them to be saprophytes, which did not produce gas in dextrose. This would exclude *Bacillus coli communis*. Presumably none of these organisms were connected with the production of substances which would explain the symptoms in the cases reported. The fourth bacillus had the following characteristics: It was motile; gelatin was not liquified;



negative to Gram's stain; gas was produced in lactose, dextrose and saccharose broth, and litmus milk was acidified and coagulated. These characteristics serve to identify this organism as the *Bacillus coli communior*. No other important organisms were found.

### III—Physiological and Chemical Observations\*

By P. J. HANZLIK

Some of the "creamed" codfish\*\* as served to the patients was procured from the hospital dietitian, and various extracts (aqueous acid in the cold, and by boiling; aqueous-alkaline; alcoholic) were made from it. There were then utilized for the physiological and chemical observations, which were controlled with extracts made from codfish (fresh and putrefied), salted codfish (fresh and putrefied), and both these varieties "creamed" and prepared in exactly the same way as the "creamed" fish which was served to the patients.

The "creamed" fish is prepared in the hospital as follows: The salted fish are macerated in water for 12 hours. The watery extract is then discarded and the fish is steamed. Then it is removed from the steamer and creamed with a mixture consisting of flour, butter and milk, and served in about one hour. In the meantime the prepared material is kept lukewarm within the steamer.

#### Physiological Effects

*Surviving Intestine:* A stimulation of peristalsis with marked increase in tone and some increases in amplitude and rate with the aqueous acid extract of the "creamed" fish on longitudinal and circular strips of cat's and rabbit's intestine were produced. The same effects were obtained with the alkaline and neutralized extract, but not with the boiled, and to only a very slight extent with the alcoholic extract. The augmentor effects produced by the aqueous acid extract closely resemble those of

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\*For complete details see Archives of Internal Medicine.

\*\*Inasmuch as the Dietitian discovered no apparent putrefaction in the fish when it was used, it is probable that the spoiling must have occurred before the fish was salted; and that the evidences of putrefaction were masked by the salting. Thanks are due to Miss Graves, Chief Dietitian at Lakeside Hospital, for her kind co-operation in this investigation, and to Mr. Beebower, Supply Agent, who secured the material.

histamin. Putrescine and cadaverine are said to produce similar effects, though not so pronounced.

When it was ascertained that only the aqueous acid extract made in the cold gave the most constant and maximal effects, the extracts of the control material were made in this way. The control experiments were made in order to ascertain if physiologically active extracts required putrefied material, and whether the process used in the preparation of the "creamed" fish gave the optimal conditions or not. It was found to be true that only salted codfish which was first allowed to putrefy and then was "creamed" and prepared according to the hospital method gave the most constant and typical physiological effects.

The results indicated that only the aqueous acid extract of the "creamed" putrefied salted codfish gave typical effects, and that these were practically identical with the effects obtained with the hospital material. Extracts from plain and "creamed" fresh or putrefied codfish and "creamed" fresh salted fish produced practically no effects. It is clear that putrefaction of the fish is essential for the production of the augmentor effects on peristalsis. It seems also to be necessary to "cream" and prepare the fish as was done for the patients. This mode of preparation may establish some suitable condition under which liberation of the active chemical substances takes place. It will be shown later that apparently a certain bacterial environment is also necessary to produce physiologically active culture media.

*Surviving Uterus:* The effects produced were essentially similar to those on the intestine, namely, a marked stimulation of peristalsis.

*Blood Pressure:* All of the extracts (intravenous injection in dogs) from the hospital material and the controls produced a fall in blood pressure followed by a rise, except the aqueous acid extract of the "creamed" putrefied salted codfish, in which the fall was not followed by a rise in pressure. This result was constant and resembled the characteristic effects obtained with histamin. The fall in pressure could not be due to albumoses or peptone because some of the other extracts which contained these substances did not give the typical effect of this particular extract. On the contrary a slight rise in pressure was usually obtained after the primary fall.

*Effect of Bacterial Cultures of "Creamed" Fish on Surviving Intestine:* The various culture media which were incubated



with the hospital material by Dr. Harmon were applied directly to strips of surviving intestine. The object of this was to ascertain roughly, if possible, the kind of environment (as judged by media of different composition) that is most favorable to the organism for the development of the physiologically active toxic substances. It was interesting to find that only one culture, namely, bouillon-dextrose, out of several kinds (plain bouillon, lacmus milk, agar and bouillon-dextrose) that were used, produced a physiological response, and this resembles essentially the effects produce by the aqueous acid extract of the hospital material itself. The effects of plain bouillon and dextrose alone were excluded because no effects were produced by the inoculated media.

#### Chemical Observations

These were limited to the active physiological extract of the control material, which behaved similarly physiologically to that of the hospital material. Group reactions (Pauly's, Knoop's and biuret) for certain supposed bases and other products were applied. Only a summary will be given here. For the details the full paper must be consulted.

The results obtained with these chemical tests indicate that the general group of diamines is concerned. To this group belong histamin, putrescine and cadaverine. It is not maintained that the presence of either one or all of these products is demonstrated. However, other substances which give Pauly's reaction, such as alcohol, chrysarobin, creosote, creosols, dionin, guaiacol, heroin, morphine, naphthol, opium, phenol, tannic acid, etc. (3), do not come into consideration here, and purins and other analogous products which occur in normal urine (also positive with Pauly's reagent, though not characteristically) are excluded because these do not give any known physiological reactions such as were obtained with extracts of the fish material, or clinical symptoms as exhibited by the patients. The biuret and Knoop's tests were negative (exclusion of protein and histidine, respectively).

3. Hawk: Practical Physiological Chemistry, 1913, p. 360, Blakiston's, Philadelphia.

#### IV—Discussion

By P. J. HANZLIK

From the nature of the clinical evidence obtained, it appears that the symptomatic attack which seized the patients

was not of bacterial origin. The attacks took place within three hours, which is much shorter than the incubation period of any known organism. It appears then that some other cause was present. This might be chemical, that is, some chemical substance which was already present in the fish food before it was ingested. The origin of this in turn might be bacterial or autolytic. It is presumed that it was bacterial. The rapidity, violence and suddenness of the attacks would indicate some active chemical substance which was performed and readily absorbed.

Physiologically it can be said that the experiments upon surviving organs indicate that some substance markedly stimulating to peristalsis was present in the material. The tone of both intestinal and uterine musculature was markedly increased. In fact, this seemed to be the most striking effect. However, the rate and amplitude of the intestinal peristalsis were also increased at times. These reactions would not necessarily explain the gastrointestinal symptoms observed in the patients, but it is suggestive. Increased peristalsis of the intact intestine was observed in a dog which had received an intravenous injection of the most active fish extract. These effects are quite analogous to those obtained with histamin, and similar diamines such as putrescine and cadaverine, which can be prepared from decomposed flesh. The effect on the systemic blood pressure resembled that of histamin, namely, a fall with a gradual tendency to recovery. These reactions cannot be attributed to protein or its decomposition products such as albumoses and peptone, or even purins, because many of these are not known to have any such physiological effects, and moreover certain of the extracts which contained these products produced no effects. It would appear that these physiological actions are due to some chemical substance which is elaborated under certain favorable conditions, namely, from salted codfish which is previously allowed to putrefy and then is "creamed" and prepared as described in the text. An aqueous acid (HCl) extract of such fish food gave the most marked and constant typical effects. A similar extraction could conceivably occur in the stomach, that is, by the solvent and digestive power of the gastric juice. The alkalinity of the intestine would not remove the physiological effects, as no interference with the typical reaction was observed when the active acid extract was rendered alkaline.



The chemical evidence is incomplete. However, it may be stated that the physiologically active substance is destroyed by prolonged boiling as the boiled extracts were inactive. Alcohol does not remove it completely. An aqueous acid (HCl) extract in the cold was the most active and gave constant results. (Only the "creamed" putrefied salted codfish is here referred to, as the fresh fish and salt fish under other conditions gave inactive extracts.) The fact that Pauly's reaction with p-diazo-benzene sulphonate was positive in the absence of protein (excluded by purification and negative biuret reaction) seems to indicate that some base belonging to the general group of diamines, represented by such products as histamin, putrescine and cadaverine and derived from putrefied flesh, is present. The presence of purins and other analogous substances is excluded by the nature of the symptoms and the physiological effects on blood pressure and surviving organs.

#### V—Conclusions

1. The clinical symptoms observed in a large number of patients attacked with ptomain poisoning from "creamed" salted codfish were: epigastric distress, nausea, vomiting, intestinal colic and diarrhoea. Complete recovery occurred in twelve to twenty-four hours, in a part of the individuals spontaneously, and in another part, following gastric lavage.

2. Bacteriological examination of the "creamed" fish showed the presence of *Bacillus coli communior*, and other saprophytes and some staphylococci.

3. The gastrointestinal disturbances are not attributed to infection by the organisms in the fish material.

4. Extracts of the "creamed" fish gave practically the same physiological reactions as the same brand of salted codfish which was previously allowed to putrefy and then was prepared in the same manner as the food served to the patients.

5. The physiological effects consisted of a marked stimulation of intestinal and uterine peristalsis in surviving organs; and a fall of blood pressure with gradual recovery.

6. The purified active extract of the "creamed" putrefied salted codfish contained some physiologically active base, whose chemical reactions resemble those of the group of diamines to which putrescine, cadaverine and histamin belong.

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## ESSENTIAL HAEMATURIA\*

S. ENGLANDER, M. D., Cleveland

The following case, as near as can be told without section of the kidney is an example of true essential haematuria.

J. F., custodian of a public school, seen in consultation with Dr. Wm. G. Mussun, Jan. 1, 1914, for bleeding from the genito-urinary tract.

*Family History*—Negative for tuberculosis—malignant disease—Haemophilia or Lues.

*Personal History*—Had an attack similar in character one year ago which continued for some time, but apparently left him in good health. Present attack three weeks duration; has been passing bright red blood; no apparent effect on his health. He continued work for ten days after haematuria commenced, apparently feeling fine. His occupation which consisted among other things of firing a furnace did not seem to increase the haematuria. There was some tenderness in right kidney and along right ureter.

*Cystoscopy*—Jan. 1, 1914.

*Bladder Capacity* O. K.—Bladder slightly injected especially about trigone. No further suggestions of pathology in bladder. Right ureteral orifice O. K. and contractions regular and seem to expel a normal looking urine. Left ureteral orifice large and with every contraction there is a bright red gush of blood.

*Microscopically Right Kidney*—Many epithelial cells from ureter and pelvis of the kidney—few red blood corpuscles—some pus cells and lymphocytes. *Left Kidney*—Red blood cells and amorphous urates. Intra muscular injection of Indigo carmine a good blue color was ejected from the right kidney 12½ minutes; left kidney 13 minutes. A collargol X-Ray of the kidney pelvis was negative; the pelvis being normal in size and contains no calculi. Guinea pig injected with urine from left kidney showed no tubercular lesions three months later. The treatment as administered by Dr. Mussun; Calcium Lactate Gr. x t. i. d. with Liquid Diet. 1.5.15 Coagulose temporary improvement no blood; 1.7.15 more Coagulose;—some blood 1.6.15, 1.8.15 Turpentine which is strongly recommended by Keyes—also with temporary improvement only. Bleeding finally stopped early in February and there has been none since.

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\*Read by invitation before the Ashland County Medical Society, Nov. 2, 1915.



Essential haematuria, or symptomless haematuria, an expression conveniently used to express our ignorance of hemorrhagic conditions from the upper genito-urinary tract may continue intermittently for years and in spite of it the patient may enjoy average health, or it may occur but once never to reappear. On the other hand it may be so persistent and profuse that only very radical measure will avert a calamity.

In recent years the increasing interest in urological conditions and especially hemorrhagic conditions of the kidney and ureter, has stimulated research so that at the present writing many hemorrhagic conditions of kidney origin formerly unexplainable have become familiar to us and more easily diagnosed. There is as yet however, no unanimity of opinion, the various authorities differing as to the causative pathology of kidney hemorrhage and among more recent utterances is that of Spitzer, of Denver, who says that changes in essential haematuria are identical with those of a passive congestion and therefore it is a chronic passive congestion.

Harpster says that fully one-third of the cases of essential haematuria are due to tuberculosis of the kidney. In a masterful paper in the *American Journal of Urology*, Elsner believes that most cases of essential hemorrhage from the kidney can be explained by the various inflammatory conditions of the kidney both acute and chronic; the latter not showing many or no changes in the urine microscopically are often mistaken for true essential haematuria. In summing up his cases he says that blood is found in the urine at some time or other in chronic tubal nephritis 33% of cases; acute tubal nephritis 100%; secondary congested kidney 100%; chronic int. nephritis 14%.

The various authors attempt to explain blood in the urine each in his favorite way but it is my intention today to discuss some of the conditions which may cause renal haematuria and as far as possible to elucidate upon the methods of diagnosis and treatment.

We well know that the most common symptom complex of tuberculosis of the kidneys is pus, hemorrhage and cystitis; first only around the ureteral meatus and gradually spreading to remoter parts of the bladder. A case so well marked would never be mistaken for a case of essential haematuria but has it never occurred to you that a patient may have a single copious hemorrhage and no further symptom and still have a rather

well marked renal tuberculosis. This hemorrhage may come to a patient in a seemingly perfect state of health like a bolt out of a clear sky with absolutely no accompanying symptom and may not recur for months. The pathological lesions in these cases are usually found as a tubercular involvement of the papillae of the pelvis of the kidney sometimes also as an affection of the glomeruli. How to recognize this form of tuberculosis is often a great problem, however the following procedure might help: Traumatizing the kidney, limitation of fluids so as to get as concentrated a urine as possible in this way making the finding of the tubercular bacillus much easier and the injection of O. Tuberculin 0.1 mg. for a focal reaction and finally animal experiments. In this connection it may be interesting to note that Albarran, found post mortem a kidney pelvis swarming with tubercle bacilli without any lesion of the kidney substance itself.

Boursier writing in 1900 and Cabot in the latest number of *Surg. Gyn. and Obstet.* mentions the fact that hemorrhage may be the only symptom of renal lithiasis and microscopically one may find nothing besides a few uric acid or calcium oxalate crystals. Blood in many cases precedes the appearance of pus for a considerable length of time. The various nephritides, usually easily recognizable under the microscope are often accompanied by more or less hemorrhage sometimes profuse and again at other times very limited in amount. There are other cases however, where the only symptom is blood in the urine, unaccompanied by any other symptoms. Elsner in the *American Journal of Urology*, 1912, says "Insignificant renal changes often unrecognized even after careful search, may give rise to profuse and almost continuous hemorrhage while in other cases equal or even more extensive positive lesions, indeed disorganization of kidney substance may progress without visible blood. Under the microscope there may be only occasional blood corpuscles." He then goes on to enumerate the various kidney affections which may cause bleeding;

1. Chronic Tubal Nephritis.
2. Chronic Interstitial Nephritis.
3. Cases of punctiform changes in the substance or pelvis of the kidney undiscovered by macroscopic often by microscopic examination
4. Gouty Nephritis



5. Paroxysmal haematuria caused by chilling of the surface

6. Renal Infarct

7. Cases of acute or chronic primary infectious pyelitis noncalculous, with moderate haematuria.

Profuse haematuria associated with gouty diathesis may be the first of a long train of symptoms to characterize a chronic interstitial nephritis. Schenk has reported a case in which he says the cause of a hemorrhage after nephrectomy could not be ascertained. The microscope did not clear up the mystery, as histologically it was normal and there was no bacteriological infection.

Bunts split a kidney from pole to pole at an operation but could find nothing but a dark colored centre which seemed to be an area of venous congestion. The kidney was sutured, replaced and except for a rather copious hemorrhage immediately after operation there has been no further bleeding, at the time the patient was seen ten months later.

Wulff in a kidney which had been bleeding, found microscopically, hemorrhage between the tuft and the wall of the glomerulus but no evidence of nephritis.

It is probable, judging from the discussion of all authorities on this subject that it is fair to assume that haematuria may appear for a considerable period before the nephritic lesions can be recognized. While Casper insists that all nephritic lesions are bilateral, Israel, Rovsing, Edebohls and Albarran contend that nephritis may not only be unilateral but may be localized in but a very small area of one kidney. In a very extensive review of the literature, Mankiewicz in the *Zeitschrift for Urologic* calls attention to the fact that haematuria may usher in an attack of haemophilia. These attacks in several instances were brought on by warm baths and there had been histories of profuse hemorrhages, as a rule during minor surgical operation, such as tooth extractions, etc. These cases were usually accompanied by haemolysis of the blood corpuscles. In other cases hemorrhage was brought on by sudden chilling of the surface of the body. It is questionable however, whether hemorrhage when limited to the kidney alone is ever due to haemophilia.

That purpura hemorrhagica may cause bleeding from the kidney is not generally well known. As yet very little has been written on the subject until Eichhorst of Zurich described three

cases in 1912. Though usually the hemorrhage follows the classical symptoms of the disease it sometimes ushers in an acute attack. However, we can hardly consider this type of haematuria as essential as the condition is always accompanied by a hemorrhagic nephritis.

It is true, also, that an attack of purpura may predispose to nephritis. Several of the authorities in the German and French schools, support the theory that angio-neurotic edema may attack the kidney and cause hemorrhage. The kidney becomes swollen and tender, there are usually also surface evidences of trophic nerve disturbances. Even a normal kidney has a limited range of motion and it is an easy matter for the tough unyielding arteries, especially in the case of supernumerary arteries to occlude the veins. In the same way, to a greater degree a wandering kidney may interfere with the venous return, and by torsion of the pedicle, obstruct the venous return, cause a passive congestion and haematuria. The interference with the venous return can be explained in these cases in the following way:

1st—Walls of the veins are a great deal thinner than that of the artery.

2nd—Venous pressure is a great deal less than the arterial.

3rd—The arteries are greater in number and calibre than the renal veins.

Guiteras says: "Anomalies of the vessels exist in cases of abnormal kidney but they may also be found in normal kidney. The vessels may be abnormal by their origin; by their distribution or by their number. Anomalies of the renal artery are more numerous and more important than those of the vein." That is these supernumerary arteries that are the cause of a renal haematuria, has been proved when at operation their ligation and removal has done away with the hemorrhage. In a case described by Harpster he believes that the hemorrhage was due to rupture of one of the abnormal branches of the renal artery as the pelvis of the kidney contained a bright red blood clot.

While haematuria is probably the earliest, most important and most persistent symptom of renal malignant disease, and can often be recognized as accompanying the tumor, in late cases by palpation, in early cases at times by distorsion of the collargol filled pelvis, Hildebrand reports a case where the hemorrhage preceded the appearance of the growth by four or five years. In



late cases, too, there is a desquamation of kidney and pelvis cells, as well as here and there tumor cells.

Dr. Braasch has reported that in a certain number of pyelitis cases, bleeding occurs. In colon bacillus infection of the kidney, the poison seems to concentrate itself in the papillae of the kidney; these may become inflamed and ulcerated and cause haematuria. The finding of the colon bacillus, some pelvic epithelium and a few pus cells (there are usually not many in a colon infection) ought to clear up the diagnosis. That varicosities of the renal papillae may occur has been proved beyond a shadow of doubt by Cabot in America and Fenwick abroad. The bleeding may be so obstinate that it may necessitate nephrectomy.

As well as there are papillomata of the bladder there may also be papillomata along the course of the ureter and in the pelvis of the kidney. This may be part of a general pyelo-uretero vesicle process, and as such may be easily recognized, but when they are limited to the pelvis of the kidney and ureter alone, it is impossible to recognize them.

The excruciating agony of renal infarct and the excessively tender kidney and the constitutional changes accompanying it, ought to make the cause of the hemorrhage in these cases easily recognizable. The discovery of a septic endo-carditis, tonsillitis, furunculosis coincident with the kidney signs, will clinch the diagnosis.

Pregnancy may not only cause a pyelitis, but by pressure on the pedicle, practically always the right, may even cause a hemorrhage.

Vogel says that haematuria of pregnancy is due to varices of the kidney, chiefly the pelvis but may be due to varicosities in the bladder. Schueler reports a case which developed bleeding in each of her five pregnancies, in the twenty-second week.

That uncompensated heart lesions cause haematuria is only mentioned here in passing and really could never be considered among our cases of essential haematuria.

Among the more common of our drugs, in daily use, it must not be forgotten that urotropin in large doses for a short period of time or in moderate doses (Gr. v. t. i. d.) as in one of our own cases, may cause considerable renal hemorrhage which can be stopped immediately and therefore diagnosed by withdrawing the drug. The changes are, however, more often found in the

bladder than in the kidney. Not a few cases of bleeding have been reported after the administration of salvarsan or the more recent product 914.

Bleeding from the kidney may also occur in various other infectious diseases such as typhoid, yellow fever, etc.

Cantharides, turpentine, coal tar products and various emenagogues, may also be the cause of kidney hemorrhage. Tabes and hysteria are at times said to cause bleeding from the kidney.

### Diagnosis

When making a diagnosis of essential haematuria one wants to exclude all other possible sources of bleeding from the kidney. Calculi which produce hemorrhage long before there is an accompanying infection should be ruled out by an X-Ray of the entire genito-urinary tract. Those cases of chronic nephritis not showing any abnormality in the examination of the sediment may often be recognized by an examination of the eyeground or by the abnormalities in the cardio-vascular system. Blood and pus, or pus alone indicate an infection which may be tubercular, or due to stone pyelitis, etc. In those very obscure cases which luckily are a rarity, in which bleeding may occur but once and may precede demonstration of pus and tubercular bacilli in the urine by many months, injection of tuberculin with massage of kidney for a focal reaction and animal experiments often help out.

A collargol picture of the pelvis will show its pathological conformation and often assist a great deal, in diagnosis of new growths. The introduction of the various tests for the estimation of the secretory activity of the kidney may assist us in our diagnosis. A kidney with a true essential haematuria should give a normal output of 'pthalein, indigo carmine urea, etc. Where the hemorrhage is pathologic, i. e., from the viewpoint of the kidney the functional activity is decreased, usually in proportion to the amount of the kidney involved.

### Treatment

The treatment of course varies with the cause of haematuria if that can be ascertained. While it is true that the term essential or symptomless haematuria means a haematuria without discoverable lesion operation when it becomes necessary may reveal a definite pathology. Hagner before the American Uro-



logical Association, 1907, reported three cases in which symptomless haematuria disappeared after simple ureteral catheterization and in which no medicine, whatever was administered. Young and others have reported cases in which they used pelvic lavage with adrenalin with success. This procedure is probably of benefit only in those cases in which the lesion is in the pelvis of the kidney alone and not in the kidney structure itself.

In Harpster's case the bleeding was stopped when at operation, the supernumerary arteries causing haematuria were ligated but of course it is impossible to recognize the condition before operation.

As mentioned above, even the normal kidney has a limited range of motion and this motion when slightly increased especially when associated with supernumerary arteries may give rise to a haematuria. The fixation of such a kidney particularly if the range of motion is slightly beyond the average, often stops bleeding. By the same token the bleeding from a hydronephrotic kidney may be checked by a nephropexy.

In an acute parenchymatous nephritis with the large swollen kidney an Edebohls' operation, stripping of the capsule of the kidney is usually sufficient. In those cases of essential haematuria where nothing can be discovered and a nephrotomy discloses a glomerulo-nephritis, general or sharply localized or as in Bunts' case only a localized area of congestion, suturing the kidney, with mattress sutures usually stops the hemorrhage.

In concluding it is well to bear in mind that it is a very dangerous procedure in those advanced in years and suffering from retention of urine, to empty the bladder entirely at one sitting as the sudden release of pressure on the blood vessel walls causes oftentimes a fatal hemorrhage not only from the bladder itself but along the whole genito-urinary tract.

*625 Osborn Bldg.*

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

### Tubal Pregnancy

The signs and symptoms of ruptured tubal pregnancy are fortunately recognized by most medical men today. The fact remains that the great majority of tubal pregnancies rupture before they are diagnosed, and it is therefore imperative that the general practitioner particularly, become more familiar with the signs and symptoms of unruptured tubal pregnancy. Information aiding in such a diagnosis is to be found in all good present-day texts on gynecology and obstetrics.

The etiology of the condition is ascribed to various causes, of which chronic inflammation of the tubes and other pelvic structures, diverticula, duplicate tubes, accessory ostia, fibroid tumors, etc., are the more common. The fate of the enclosed ovum and the pathological changes arising within the tubes are problems which in the past have had but scant consideration. Recently Franklin P. Mall (*Surg., Gyn. Obst.*, 1915, XXI, 289) has given us the results of an extensive study of tubal pregnancy, dealing principally with etiology and fate of the ovum.

Mall's figures are based on the study of 117 specimens sent to him from all over the country. The most common etiological factor was chronic inflammation of the tubes resulting in kinking or partial obstruction of the oviducts. He found that if the ovum within the tube contained a normal embryo, there was but little adjacent inflammation; if it contained a pathological embryo, the changes in the tube wall were usually marked; and when the ovum was markedly disintegrated, the changes were still more pronounced.

The etiological inflammatory changes not infrequently followed a severe or low grade puerperal infection but much more frequently were subsequent to a gonorrhoeal attack, which can safely be put down as the most common etiological factor.

Implantation is most common in the isthmus of the tube, but quite similar at any location to the normal implantation in the uterus. The ovum burrows through the mucous membrane and makes a space for itself between mucosa and musculature. This is accompanied by a more marked hemorrhage than with uterine implantation. The trophoblast grows around and then



into the venous sinuses of the tube with accompanying hemorrhage. In the tube practically no decidua is formed, which in the uterus is an important factor in preventing excessive bleeding from the eroded venous sinuses. The blood in contact with the trophoblast does not coagulate and is taken up by the syncytium, serving for nourishment of the ovum. If hemorrhage is excessive the blood clots, and this clot constitutes a foreign body. Extensive hemorrhage is prevented by the trophoblast, which soon changes into vacuolated syncytium protecting the intervillous spaces. The trophoblast produces a necrosis of maternal tissue which becomes the so-called fibrinoid substance forming a strong wall between the tips of the villi and the tissue of the tube.

In the series, 13 specimens contained normal embryos varying from 4 mm. to 96 mm. in length, the majority falling in the sixth week, at which time diagnosis is most often made. Only the larger of the specimens were unruptured, the smaller ones terminating by rupture.

When the tube wall is markedly altered and accompanied with infection, the ovum does not get satisfactorily implanted and therefore perishes. Of 25 specimens containing pathological embryos, only 6 were ruptured, showing that ruptured specimens usually contain normal embryos, or that a live embryo is far more dangerous to the mother than is a pathological one.

Sixteen per cent of tubal pregnancies contain normal embryos, 25 per cent pathological embryos and 59 per cent pathological ova. All of the pathological ova and most, if not all of the pathological embryos, would have disintegrated and disappeared had they not been removed by the surgeon. Of the normal embryos the great majority rupture or abort, though very occasionally one may go to term.

No definite statement is possible at present, but the possibility is to be considered of a small fibrous clot or of an excessive hemorrhage within the tube having some relation to haematosalpinx, hydrosalpinx and pyosalpinx.

### **Pregnancy and Tuberculosis**

The subject of pregnancy and tuberculosis is one which has long been under discussion and although our ideas are becoming more uniform in the matter, still there exists a considerable difference of opinion, which is undoubtedly partly due to differences in religious beliefs. In considering the subject no recognition can

be taken of such differences of opinion and only facts can be discussed. Each and every man must take the facts and deal with them as he sees best.

The infrequency with which the obstetrical attendant examines, or has the patient's lungs examined, no doubt accounts for the opinion that tuberculosis in pregnancy is comparatively rare. It has, however, been carefully estimated by Bacon that each year 22,000 to 44,000 gravidae in the United States have tuberculosis in one of its three stages.

An extremely valuable collective review on this subject has recently been given us by Polak and Matthews (*Surg., Gyn. Obst.*, 1915, XXI, 233, Abst.), which includes an excellent bibliography of literature from 1904 to 1915. It is urged that all who practice obstetrics take occasion to read this publication.

Tuberculosis in itself seldom causes abortion or premature labour, but it is not infrequently a predisposing cause by producing a general asthenic condition of the mother through cough, haemoptysis, vomiting, fever, infection of placenta and decidua and tuberculous toxæmia. The effect of tuberculosis on pregnancy going to term is very slight, the child develops normally and labour is normal except in the advanced cases where it may be prolonged and accompanied by dyspnoea, cough, pulmonary oedema and hemorrhage, cardiac failure, etc.

The influence of pregnancy on tuberculosis varies irregularly with the stage of the disease and the individual. In general, the influence is very bad, as a dormant tuberculosis may light up with great activity. At Saranac Lake, 63 per cent of 240 tuberculous women dated their disease from a pregnancy; Fishberg gives 37 per cent of 286 cases and Marogliano 59 per cent of 385 cases under similar circumstances. Women with the disease in the inactive stages may improve during pregnancy and go through labour in good condition. They may, however, get decidedly worse at any time, most commonly during the puerperium. Von Bardeleben says that the average of 14 observers was that 71 per cent were made decidedly worse with many fatal terminations.

If the disease has attacked the uterus and appendages, pregnancy is certainly very uncommon. Novak and Ranzel report 70 per cent of placentae from women with positive tuberculosis contain the tubercle bacillus. Norris finds only 20 per cent so infected. The question now arises, is the child infected in utero?



Due to the placental lesions it is quite possible for intrauterine infection to take place, but such an occurrence must be very rare. Children born of a tuberculous mother are almost invariably infected after birth through their intimate association with their mother. They may also have an inherited predisposition to the infection which renders them more susceptible than children of normal parents.

In general, tuberculous women should never nurse their children. It further exposes the child to infection and is a pronounced tax on the strength of the mother, who needs all the reserve force it may be possible to attain. For a very short time it may be permissible to pump the mother's breasts to feed an underdeveloped baby until a wet nurse can be obtained, or to give the child a bit of a start before feeding artificially.

Neither men or women with tuberculosis should ever marry, and if the disease develops after marriage, it is most advisable to prevent conception, preferably by sterilization of the affected party, utilizing vasectomy in males and either salpingectomy, Röntgen rays or radium in females.

The management of a tuberculous pregnant woman depends somewhat upon her circumstances and surroundings, her ability to care for herself and to be taken care of, also on her willingness to take the risk to herself for the sake of her child.

Therapeutic abortion is justified up to the fifth month in latent or active tuberculosis. From this time to the eighth month or the period of viability, the woman should be induced to continue her pregnancy in the interest of her child, unless abortion is imperative to save her life. The closer she can be brought to term the better chance her baby will have, with usually no intensified bad results to herself. At the time of labour the mother should be spared in every way. Nitrous oxide analgesia should be used during the latter part of the first stage, and if necessary to hasten dilatation of the cervix, bags should be used. When the cervix is fully dilated version and extraction may be done if the head is not well engaged, in which case mid-forceps are applicable. Nitrous oxide is the preferable anesthetic, though a very small amount of chloroform or ether may be desirable to get complete relaxation for a version.

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**CLINICAL LABORATORY METHODS**

By CLYDE L. CUMMER, M. D., Cleveland.

**Etiology and Laboratory Diagnosis of Smallpox and Chickenpox.**

**J. N. Force, M. D., Berkeley, Cal.**

(*The Journal of Laboratory and Clinical Medicine*. Vol. I, No. 4, Jan. 1916, p. 243).

The author gives a thorough review of the literature and summarizes the present state of our information regarding the organism of smallpox as follows:

- "1. The organism is present in the lesions of smallpox and vaccinia.
- "2. The organism is filterable virus normally occurring as a coccoid form measuring from 0.2 to 0.5 micron in diameter.
- "3. The organism invades epithelial cells and derives an enveloping substance from the nuclei of these cells.
- "4. The organism is capable of inoculation in animals though affected somewhat in its general activity by the tissue selected for inoculation or by the portal of entry into the body.
- "5. It occurs in skin lesions accompanied by bacteria and the removal of the bacteria is difficult of accomplishment without lessening the activity of the organism.
- "6. The organism has been grown in pure culture in vivo, and in culture media containing epithelial tissue. It has possibly been grown in culture media without epithelial tissue, though this last point needs confirmation."

He also mentions various methods of laboratory diagnosis which have been suggested at different times. Particular emphasis is placed upon the method which had been suggested by Force and Beckwith. Rabbits, previously sensitized by vaccination with vaccine virus, will give a marked intradermal, allergic reaction with the contents of the smallpox vesicle. This reaction appears in from twenty-four to forty-eight hours. This reaction has been produced, the author claims, with smallpox vesicle contents as long as nine days after its removal from the patient. So, transportation to central laboratories where immune animals may be kept is possible.



### Test for Albumin in Urine.

Victor C. Vaughan, in an editorial in the *Journal of Laboratory and Clinical Medicine* (Vol. I, No. 1, October 1915, p. 55), calls attention to the question of albumin examinations. He states that heat and nitric acid, simply and combined, with the contact test, remain the reliable means for the recognition of albumin in the urine. He makes the point that all other tests are subject to certain objections and findings with them are liable to misinterpretation. An important point is the examination of the urine as fresh as possible. He condemns the method used in many central laboratories for clarification of the urine by heat with strong alkalis and filtering. The alkali dissolves the bacterial proteins and of course, the filtrate will show albumin test, even when there was none in the urine. Likewise, he condemns the suggestion of filtering the urine through a Berkefeld filter and directs attention to two sources of error:

1. Albumin when present may be held in the filter and thus escape detection.
2. Bacterial protein may be in solution, even though not treated with alkali, and may easily pass through the filter.

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### EXSTROPHY OF THE BLADDER

Two cases of exstrophy of the bladder in which operation was performed are reported by J. J. Moorhead and E. L. Moorhead, Chicago (*Journal A. M. A.*, Feb. 5, 1916). They find that this anomaly occurs about once in 29,000 births and about five times as frequently in males as in females. Its causation is best explained on a mechanical basis—an intra-uterine rupture of the bladder. The urethra becomes closed up in some way, causing a retention of urine. The pubic bones, at this time scarcely cartilaginous, are kept apart until they become hardened and the recti muscles are also separated. The bladder presses against the abdominal wall and finally ruptures and forms adhesions to the borders of the split. The authors give the description of the Maydl operation, which was performed in these cases, the vesicle trigon being transplanted into the sigmoid colon. In the first case the postoperative course was satisfactory until the seventh day, when a sudden change occurred and the patient died. Postmortem examination revealed a circumscribed peritonitis, but pulmonary embolism was considered the cause of death. The second case is unique, occurring in a woman who had been a mother. The patient left the hospital in five weeks pleased with her condition. Experiments on animals by the authors have latterly been quite satisfactory and they conclude that the Maydl operation or some modification of it is the best surgical treatment for exstrophy of the bladder. The article is illustrated.

## NEUROLOGICAL REVIEWS

By T. S. KEYSER, M. D., Cleveland

In the *Revue Neurologique* for April, 1915, a summary is given of a case of tumor of the corpus collosum, which was reported before the Soc. of Psych. and Neur., of Varsovie, which illustrates most emphatically the extreme difficulty often encountered in diagnosis of neurological cases.

The illness began six years previously with periodic clonic contractions of the left arm, occurring at irregular intervals without loss of consciousness, in a man of 32 years. No other symptoms appeared before examination which revealed only papilloedema and paralysis of the right external rectus. There was no disturbance at the intellectual level and no ataxia or aphasia. The patient died suddenly while walking about. Autopsy showed a glioma involving the entire corpus collosum and to a moderate extent the left optic tract.

Clinically the case differed from the classical description of tumors of the corpus callosum in: 1st, the local convulsions; 2nd, papillary oedema; 3rd, intact intelligence; 4th, absence of motor symptoms; 5th, involvement of a cranial nerve; 6th, no ataxia (apraxia) or aphasia.

The Jacksonian convulsions would certainly make one suspect a cortical tumor and this associated with a paralysis of the right external rectus, would suggest a basilar luetic meningitis associated with a cortical gumma or meningo-arteritis.

*Le Syndrome des Fibres Radiculaires longues des Gordons Posterieurs. Dejerine. C. R. de la Soc. de Biologie, t. LXXV, No. 36, p. 554.*

The author designates under this name a special form of association of sensation which he has found in three cases of combined sclerosis. Autopsy and histological examination was performed on one of the cases.

The dissociation of superficial sensation in tabes is well recognized—marked alteration of touch with a complete or almost complete integrity of pain and temperature. The trouble presents itself frequently by retardation in the transmission of sensation rather than in diminution of the intensity of perception. There exists, also, alteration of all the forms of deep sensation, that is, posture, bone conduction, pressure, and stereog-



nosis. On the other hand, in the combined sclerosis, the phenomena of sensation presents an entirely different syndrome. One does not observe the dissociation of sensation as in tabes but a form of dissociation characterized by the integrity of all the forms of superficial sensation, particularly that of touch, while bone conduction, deep pressure, and stereognosis are, as in tabes, greatly reduced or abolished.

This integrity of superficial sensation in sub-acute combined sclerosis presents a unique condition for the study of localization in the posterior columns. In tabes as well as in tabetic combined sclerosis, the external part of the column of Burdach is always degenerated, even at the beginning of the tabetic process, which is the result really of the continuation in the posterior columns of the lesion of the corresponding posterior nerve roots. When tabes is advanced sufficiently in its evolution, the posterior columns are sclerosed in proportion to the number and extent of involvement of the nerve roots. The posterior gray matter finally always shows atrophic changes.

On the other hand, in the combined sclerosis, the involvement of the posterior columns is not of root origin. In fact, posterior roots are intact, and the posterior columns together with the lateral columns are affected *per se* by some infectious or toxic agent. Therefore, and this is the point on which the author insists in his communication, the topography of the sclerosis in these varieties of combined sclerosis is not the same as in tabes or a tabetic combined sclerosis. The external part of the column of Burdach which is not involved in the true combined sclerosis conduct the fibres for touch, pain and temperature for a longer or shorter distance. We know that the different forms of deep sensation pass within the long fibres of the posterior column and that these fibres alone are involved in the sub-acute combined sclerosis. This is the reason why superficial sensation is not affected in the combined sclerosis.

This syndrome is so definite that it should be designated by the term of the syndrome of the long fibres of the posterior columns.

*Pathognomonic Alterations of the Cerebrospinal Fluid in Syphilis of the Nervous System.* Collins. *Amer. Journ. of the Med. Sciences*, Vol. CLI, No. 2, p. 222.

From a comparative study of the cerebrospinal fluid in about 400 cases of syphilis of the nervous system, the following conclusions are given:

*Cerebrospinal Syphilis:* In untreated cases the Wassermann in the blood is positive in 75 per cent and in the spinal fluid in 30 per cent of all cases.

*Tabes:* The Wassermann is positive in 70 per cent of cases; lymphocytosis occurs in 75 per cent, globulin in 50 per cent.

*General Paresis:* Wassermann positive in 85 per cent of cases; phocytosis in 85 per cent; globulin in 65 per cent. The colloidal gold test is the most constant reaction in general paresis, being positive in 97 per cent of the cases.

In comparing these statistics with those of Head, published in *Brain* for 1913-14, we find quite a difference in the percentage of positive Wassermans in the spinal fluid. Head found the Wassermann was positive in 97 per cent of cases of tabes and paresis. In fact, the Wassermann was positive in 100 per cent of the cases of paresis. Of over a hundred cases of authentic general paresis seen personally, there were none in which the Wassermann was negative in the spinal fluid. It is quite common to see cases of cerebrospinal syphilis which are called paresis because they show some mental symptoms.

While at Bloomingdale Hospital, I had the opportunity to make careful mental and physical examinations of about ten cases which had been admitted to the institution from 10-20 years previously under the diagnosis of general paresis. All of these cases proved to be cerebral syphilis, usually of the vascular type. One of these cases was admitted in 1903 as a general parietic. Later examinations made in 1913 showed the condition to be one of pure auditory aphasia due to luetic endarteritis.

In a critical review of an article in the *Long Island Medical Journal* on intraspinous therapy, I contended that the results obtained could be credited entirely to the intravenous salvarsan and mercurial injections in cases not previously treated. Two cases recorded in this article support this opinion, from the serological standpoint. Both are cases of cerebrospinal syphilis.



	Sept. 2	Sept. 16	Nov. 20	
Serum Wass. ....	+	+	—	
Cerebrospinal Wass. ....	+	+	—	
Cells .....	1480	149	5	
Globulin .....	+	+	—	
	Oct. 7, '13	Dec. 9, '13	March 17, '14	June 5, '14
Serum Wass. ....	++	+	—	—
Cerebrospinal Wass. ....	+	+	—	
Cells .....	533	34	12	5
Globulin .....	+	+	—	—

*Réflexes de Défense. Babinski. Revue Neurologique, An. XXII, No. 15, p. 145.*

Babinski considers the various movements of the extremities in cases of lesion of the pyramidal tract to be defense reflexes. This is at variance with the opinion of Marie, who looks on them as automatic movements correlated with the acquired automatic movements, such as walking. However, this is a subject of academic rather than practical importance.

The defense movements are practically always present in the first months of life. About the fourth month, they begin to decrease, and disappear about the sixth month. However, extension of the big toe is often present a much longer time and has often been observed at the age of 18 months. This observation would suggest that the Babinski sign is a part of the defense or automatic reflex, a view advanced by Marie. Babinski, however, does not agree with this conclusion, basing his opinion on the fact that frank flexion of the toe is at times associated with the defense movements and often a definite extension of the toes occurs without any associated defense movements. No explanation of the Babinski phenomenon is given.

If one obtains a flexion reflex of the foot on pinching the skin of the lower extremity *above the plantar surface* of the foot, for example, on the dorsal surface of the foot, one is justified in concluding that the reflexes of defense are exaggerated, for a similar result is not obtained in a normal state. Schaeffer's reflex, which consists of dorsal flexion of the foot on pinching the tendo-Achilles, is considered by Babinski to be simply a defense movement and not a tendon reflex.

There are a number of observations showing that the defense reflexes and deep reflexes differ definitely in their mechanism. In Friedreich's disease the defense movements are very marked and ample, but the deep reflexes are abolished and there is no

contracture. In an article on the condition of the reflexes in complete section of the cord, Dejerine found that the deep reflexes are regularly abolished while the defense reflexes are usually present and often exaggerated. There are two distinct types of paraplegia which also show a disproportion between the deep and superficial reflexes. The paraplegia spastica spinalis of Erb is characterized by marked spasticity in extension, constant exaggeration of the deep reflexes, and Babinski, but no or but slight increase in the defense reflexes. The other type of paraplegia consists of paralysis in flexion in which the deep reflexes may be exaggerated but are often decreased or at times abolished while the defense movements are regularly exaggerated.

From a clinical standpoint the defense reflexes are important in the question of localization of cord lesions, especially compression of the cord. The topography of the sensory involvement generally gives an idea of the upper level of the area of compression but none of the extent of the lesion downward. However, the upper level at which defense movements can be elicited by cutaneous or deep stimulation indicates the lower level of compression. Thus the extent of the actual cord involvement can be determined. When the difference in level is considerable, the hypothesis of compression by an extra-dural tumor or pachymeningitis is most reasonable; when, on the other hand, there is slight difference, it is probable that there is an intradural tumor. In 16 cases the localization of a cord lesion by means of the defense reflexes have been verified.

There are several difficulties encountered in the delimitation of the upper border in these cases. The more important are voluntary movements, spontaneous spasmodic movements, and the frequent marked variation of the extent of defense movements from day to day or even during a single examination. It is also true that defense movements are less easily elicited when stimulation is applied to the trunk than when applied to the lower extremities.

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## THE ANNUAL MEETING OF THE OHIO STATE MEDICAL ASSOCIATION IN CLEVELAND

The 1916 Ohio State Medical Meeting will be held on May 17, 18 and 19 in this city. The Hotel Statler has been selected as the place for the meeting. The smoker will take place on the evening of the 17th, and banquet on the evening of the 18th.

It is the earnest desire of every member of the Cleveland Academy of Medicine to make this meeting the biggest and the best meeting that has ever been held in the city.

In order to do this, it is necessary that the Committee on Arrangements shall have the co-operation of all the members of the Academy. We hope that every member will help in bringing about the success of this meeting by being present at as many of the sessions as possible. Program to appear in next journal.

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Section on Hygiene and Sanitary Science: Chairman—J. R. McDowell, M. D., Springfield, Department of Health; Secretary—A. O. Peters, M. D., Dayton, Reibold Bldg.

Committee on Arrangements, Cleveland, 1916—(Standing Committee—Selected by society in county in which annual meeting is to be held): C. E. Ford, M. D., chairman; H. W. Masenheimer, M. D., Publicity; Henry L. Sanford, M. D., Entertainment; Clyde L. Cummer, M. D., Hotels; E. D. Saunders, M. D., Badges; W. J. Manning, M. D., Finance; Lester Taylor, M. D., Exhibits and Finance; L. F. Friedman, M. D., Finance; W. E. Lower, M. D., Advisory.

# The Cleveland Medical Journal

CONTINUING THE CLEVELAND MEDICAL GAZETTE and  
THE CLEVELAND JOURNAL OF MEDICINE

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All remittances to the Journal should be made payable to The Cleveland Medical Journal.

Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

Original articles are accepted for publication by this Journal only with the distinct understanding that they are contributed solely to this Journal and will not be published elsewhere as original.

## EDITORIAL

### NATIONAL BETTER BABY WEEK

#### *Birth Registration*

On the basis that it is not the officer but the people who enforce the law, the Health Department seized upon the opportunity recently afforded by Cleveland's celebration of National



Better Baby Week to put the needs of birth registration squarely up to mothers and fathers themselves in the hope that once awakened to the vital importance of registration they—as the people—would enforce it.

To give the mother, and particularly the foreign mother, something more tangible than the mere knowledge that her baby is registered, an engraved certificate of birth registration has been issued—the first time that the city has recognized this duty to its mothers.

This certificate has been made a highly attractive document, set off by a beautiful reproduction of the famed Italian “bambino,” so that it will be prized and preserved by the mother and, with the further hope that where received by one mother, it will tend to arouse a keen desire among other mothers in the same neighborhood to possess such a certificate for their own babies.

Already the floods of applications indicate that the point has been gained—that the parents of Cleveland finally have been aroused to the vital necessity for birth registration. Mothers of babies born last year or the year before are asking their physician why their baby was not registered.

Through the educational campaign that came with Better Baby Week mothers and fathers have learned that duty to the baby includes birth registration as well as fresh air and pure milk. Many have come to realize for the first time that it is to their own interests to further the work of the city's officers. With this has also come the realization on the part of the parents, that without complete registration the work of the Health Department is seriously hampered.

In carry the campaign directly to the door of the home it was not, however, with the idea of overlooking the physician whose duty it is to attend to the registering of births. Rather, it was with the idea of gaining the needed co-operation of parents in stirring up and “jacking up” those of the profession who have been so signally lax in this regard.

In spite of the gratifying exceptions, the profession as a whole has neither been prompt nor conscientious in the matter of birth registration in this city nor in the country at large.

Although the law requires that babies be registered within ten days of birth too many physicians frequently wait six months or a year, then sit down, write up, and send in records of all the

births they have attended in that period. The result is that the city's bureau of vital statistics is never up to date.

Physicians, through carelessness, too often overlook some point of information that the record requires. In these cases the necessity of returning the record for the missing information causes great delay and heavily increases the work of the department.

In spite of the fact that the law specifically requires that new born babies suffering from inflammation of the eyes be immediately reported to the health department, many physicians fail to do so when they do not think the case serious. The result is that when a new physician takes the case, as frequently happens, a belated report comes to the health department. In such cases the health officer has no previous record to show that the first physician did his duty. Therefore it can readily be seen that, if only to safeguard himself, it is to every physician's interest to report such cases.

R. H. BISHOP, JR.,  
Commissioner of Health.

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Can we afford to lose 2000 tiny lives annually?

Last year this cost Cleveland more than \$2,000,000.

Every one of these deaths was preventable.

Very few of the infants had even a fighting chance.

Every child's birthright is pure milk and pure air.

Let all citizens see that Cleveland's Babies get both.

All mothers *can* help in the fight for Better Babies.

No effort should be spared to wipe out this trinity—

DISEASE, POVERTY AND IGNORANCE.

—*Better Baby Week Slogan used in Cleveland.*



## THE WESTERN RESERVE MEDICAL ALUMNI ASSOCIATION

The relation of the alumni of any school or university to their alma mater has been a problem which every progressive institution of learning has had to face, with the realization that the alumni as a body form the institution's greatest asset, its most potent advertising medium and indeed the strongest argument why the individual school's sphere of usefulness should be widened. The more useful the alumni of any school become to American life the more confidence does the public place in the school at which they were trained and the more of its sons are sent there for their education. An alumnus' appreciation of the excellence of his training has repeatedly prompted the gift of large endowments to his alma mater.

It behooves a school therefore to keep track of its graduates, to know their influence, to further aid them in post-graduate work, if possible, and itself to learn what kind of a product it is turning out. It can best appreciate their fitness by their work and by their desire to further the school's interests.

The history of medical education in Cleveland is a long and honorable one beginning when there were a few medical schools in the country and passing through the many vicissitudes of young and poorly financed institutions. The happy combination of the various medical schools of the city and the ultimate formation of what we believe to be one strong school represents the development of many years of medical education, so that, the united alumni of the various combined schools comprise a large body of progressive and well educated medical men. The union of all these under one alumni association has been more or less definitely accomplished, but it has been suggested that the meetings of this association at present called the Alumni Association of Western Reserve Medical School have not maintained the interest expected at such times, have pursued from year to year a certain monotonous routine not attractive to the alumni spirit for which Reserve is known, nor beneficial to the school. This seems to have been true of all medical schools of Cleveland. The present officers of the alumni association recognizing that neither the spirit nor the school's interest in its alumni is at fault, have interested themselves in seeking the causes of this lack of enthusiasm and general enjoyment at these

meetings, the desirability of stimulating a closer bond of interest between the alumni and the medical school and the means by which this might best be accomplished.

We believe the main cause to be the lack of general attractiveness of these meetings. The lack of well arranged and properly announced clinics, demonstrations, ward walks, has led many of the alumni to believe it is not worth their while to attend. Thus it is apparent that the cause is not in a lack of desire on the part of the alumni and school but in a failure to get them together under happy circumstances.

The medical school and its alumni should enjoy a mutual interest and benefit. The graduate in medicine who ceases to be a student has lost a large part of his medical value to society and by the same token the medical college which loses its interest in the progress of its alumni as students has forfeited much of its possible usefulness and itself receives little benefit from its alumni. Such a college fails to become a great center of learning. Its alumni look to better systematized medical centers for their post graduate instruction. In order to appreciate these facts one needs but to note the medical colleges of the Universities of Pennsylvania and Harvard with their alumni enthusiasm.

It is therefore planned on Thursday, Friday and Saturday, June 8, 9 and 10, 1916 (which is the week before commencement and also the week before the meeting of the American Medical Association at Detroit), to give a series of clinics in Medicine, Surgery and the Specialties in Cleveland Hospitals. There will also be laboratory demonstrations at the school and some of the hospitals. A smoker and the annual dinner will be held on Thursday and Friday evenings respectively. A plan will be proposed to establish a more active organization of the combined alumni of Western Reserve University Medical School, of Charity Hospital Medical School, of the Medical Department of Wooster University and of the Medical Department of Ohio Wesleyan University.

It is hoped that all the alumni will reserve these dates, contribute what they can by their work and their presence and make the occasion a success, and, if they so desire, to make suggestions for the perfection of this association. Doctor Joseph C. Placak, 420 Rose building, is secretary.

F. C. HERRICK.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Renal Disease:** Theodore C. Janeway, in the *American Journal of the Medical Sciences*, treats of the management of patients with chronic renal disease. He says "the practical management of the patient," because, except in the rarest instances, we have no real treatment of the disease. For the most part, treatment has in the past been purely schematic, and based on a conventional diagnosis. To tell every patient with albuminuria or hypertension to stop eating red meat, or still worse, to go on a milk diet, is evidence either of colossal ignorance or inexcusable mental laziness. The treatment of chronic disease has two aims; the prolongation of life, and the amelioration of the discomforts due to the disease. These two aims are achieved by two types of treatment: (1) safeguarding treatment, which aims to protect a weakened function from further damage by overstrain; (2) symptomatic treatment, directed toward the amelioration of the symptoms which depend upon disordered function. In determining treatment along these lines, what is fundamental is the accurate estimate of the kind and degree of functional damage. He states that certain clinical types occur with such frequency that we are called on to meet the problem of their management as specific practical problems. (1) Patients in whom albumin and casts in the urine are the only evidence of disease. (2) Patients with a hypertension, with or without a trace of albumin, and with slight subjective symptoms or none at all. (3) Patients with hypertension, and outspoken myocardial insufficiency. In commenting upon the first type he states that as to diet Von Noorden has shown that considerable quantities of pepper, mustard and other condiments are renal irritants. He always held that creatinin was dangerous, and recent work has proved that creatinin retention may be very striking in severe nephritis. Therefore, soups and spices may wisely be excluded from the diet. If the 'phthalein test is normal he sees no reason for a restriction of protein, qualitatively or quantitatively below a moderate normal intake. Patients who regularly use a large amount of salt with their food should be told to reduce their use of added salt to foods which come from the kitchen unsalted. In hypertension with marked myocardial symptoms a few days in bed will work wonders, often reducing the blood-pressure greatly. High blood-pressure is no indication of nitrogen retention, and protein should not be restricted merely because of hypertension. With myocardial insufficiency the symptoms demanding treatment are dyspnea, edema and the whole picture of cardiac failure. Vasodilators have their most important use in these people, and theobromine is often valuable.

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**Influenza:** In the *Medical Record* for February 5th, Carl G. Leo-Wolf considers influenza and gripe in infants and children. In the grippy infections we find at different times and in different epidemics, different bacteria, most frequently pneumococci. In influenza the therapy is mostly symptomatic. We naturally keep the child in bed, even for a few days after the acute symptoms have disappeared. The diet in older children should be liquid at first, then he gives a generous diet rich in proteids. Starvation must be avoided, the more so as these patients are usually suffering from anorexia of drugs. One may use the salicylates in small doses, or quinine; in older children, asperin with sodium benzoates; for the irritating cough, inhalations of tincture benzoin will be soothing; in bronchitis or when diarrhea is severe one may have to resort to an opiate; but on the whole, drugs are of minor importance compared to hygienic measures. The complications must naturally be met as they arise. For the grippy infections he resorts entirely to instillations of argyrol in rhinitis, in babies especially. He also uses instillations of adrenalin to facilitate the breathing through the nose, and this is also done before

nursing to make this easier. For the laryngotracheitis and the bronchitis, he uses wet compresses and packs, and is also a great believer in the efficiency of the bronchitis kettle, or one of its substitutes, with or without the addition of turpentine or tincture of benzoin, but he does not use cresolin or formaldehyde or similar lamps, as he is convinced that it is the moisture of the atmosphere around the child that does the work and not the medication. Drugs administered internally he has given up almost entirely, except to meet complications; the results he has observed from the hypodermic use of some of the newer remedies have been by no means convincing.

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**Enlarged Glands:** The *Therapeutic Gazette* for January states editorially that older practitioners will remember that twenty-five or thirty years ago cervical glands were very commonly met with in children and in young adults, and many of the older generation at that time bore the scars which indicated that in earlier years they had suffered from lesions in these lymph nodes. At this time, before the clear relationship between infection and enlargement of these glands was thoroughly understood, they received comparatively little attention, so-called absorbent ointments being rubbed in over them, or if suppuration occurred the enlarged gland or glands were incised, as would be an ordinary abscess. A little later it became apparent that in a very considerable proportion of these cases these glands were enlarged as the result of tuberculosis, and with this discovery many surgeons insisted that the proper way to treat such cases was to cut down upon these glands and carefully dissect out the entire chain. As time went on it became increasingly evident that a goodly proportion of these cases were not tuberculous but arose from some other infection of the tonsils or about decayed teeth, and this discovery materially modified the view of those who had been most strenuous in advocating extirpation in all cases. Another step forward was reached when the profession recognized that in many of these instances complete excision and dissection of these glands was capable of resulting in much harm, in that it exposed the patient to a more or less rapid spread of tuberculous infection even if the glands which were not seriously diseased were excised along with their badly damaged fellows. At the present time the old dictum that these glands ought to be removed has been replaced by a good deal of caution in the operative methods of dealing with them, and it is also fair to state that the internal use of drugs and the external use of ointments do not receive the credit which was at one time given. The only routine or standard method of treatment may be said to be the elimination of the primary focus of infection and then the upbuilding of the patient's general vitality by an out-door life, syrup of the iodide of iron and other tonics. Meyer has reported in the *Medical Record* that in the Division of Child Hygiene in Boston, that in 118,781 school children there were 13,711 cases of enlarged cervical glands, or about 12 per cent, which indicates the relative frequency of this condition amongst the lower and middle classes chiefly. As Meyer points out, however, an important point is the fact that all but 2 per cent of these cases subsided without operation. He finds that most authors give from 30 to 60 per cent of these enlarged glands as tuberculous, and while he does not wish to be considered as too conservative, believes that something should be said against universal operation, although he recognizes that there are some instances of marked breaking down in which operation should be as radical as with a malignant growth.

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**Articular Rheumatism:** Beverley Robinson, in the February number of the *American Journal of Clinical Medicine*, writes as to the causes and treatment of chronic articular rheumatism and rheumatoid arthritis. He states that in the fifth volume of Osler and



McCrae's "Modern Medicine," it is stated by Doctor McCrae who wrote it that "chronic rheumatism" is a misnomer; that this term should be abandoned, and the designation "chronic arthritis" be substituted for it—in this way assigning no definite cause for that diseased condition of the joints, but simply stating the fact. He denies, too, as far as his observation goes, that chronic rheumatism ever followed an acute attack of rheumatism. Robinson, however, is not in accord with this opinion of McCrae, although he acknowledges freely that many joint affections, chronic in character, have an entirely different origin from that of rheumatism. Of course, if we had a thoroughly reliable touchstone in treatment we might be greatly helped, but we have not. The nearest approach to this, in his opinion, is medication with salicin in large and frequent doses. When this remedy is manifestly useful in relieving pain and helping partly the local disablement, he inclines strongly to the belief that the condition is rheumatic in nature. When, on the contrary, salicin properly given affords no relief, even temporary, he considers its rheumatic nature very doubtful; and usually the direct cause of the disease will be established later. It is evident how important it becomes to treat all these rheumatic cases very early, when the joints are implicated in an insidious way, as they often are. If we permit the poison, whatever it be, to get a hold in the system before its being effectively combated, we must make up our minds that we shall not be able to obtain any thoroughly curative effect. Autogenous vaccines, made up from the tissues and the exudates of the focus of infection, have been of value. But personally he has very limited faith in the curative effect of stock vaccines. The late experiments of Doctor David John Davis, of Chicago, on rabbits, designed to show the effects of sodium salicylate in various types of arthritis, do not substantiate what we know clinically about its action in acute articular rheumatism. They do show, however, that as we have believed for some time, in forms of arthritis other than the rheumatic, the salicylate has very little if any protective or remedial value. Today we are all inclined to seek for some distinct focus in the throat, nose, mouth, ears, appendix, and so on, as the direct efficient cause of an outbreak or aggravation of chronic rheumatism, or rheumatoid arthritis, and getting rid of this effectively is essential. On the other hand, we should recognize now, however, that there is such a thing as an arthritic diathesis, and it is clearly distinguishable in some individuals and in some families. When such a constitutional dyscrasia exists, a mere nothing, the slightest change in one's habits or surroundings, or a very moderate exposure to chill, dampness, rain, will bring on a relatively acute attack, or increase for a time the local stiffness and disablement of the joints.

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**Heart Disease:** Robert Abrahams, in the *New York Medical Journal* for January 15th, considers diet in chronic heart disease.

In managing the diet in chronic heart disease it is essential, first and foremost, to ascertain to what extent the heart is in difficulty, and to what degree its action is embarrassed. A patient with mitral or aortic disease, enjoying good compensation, need fear nothing except overindulgence in any diet. A patient with valvular disease, and partial broken compensation, may with impunity partake of any diet, but instead of taking three big meals a day it is better to take six small meals. The diet of a patient afflicted with valvular lesion, and complete loss of compensation, must be in the main liquid, and his feeding hours frequent. The same applies to victims of myocardial degeneration. These precautionary measures in feeding are prompted by the consideration that solid food and food known to be hard to digest require a gastric secretion normal in both quality and quantity. When compensation is good the mucous membrane of the stomach is normal and the secretion is normal. In failure of compensation all mucous membranes are congested, venous engorgement everywhere. The lining membrane of the gastric cavity shares in the uni-

versal blood stasis. This condition not only diminishes the amount of the secretion, but vitiates its digestive property. Valvular lesions, minus myocarditis, differs from myocarditis in relation to diet. Valvular disease alone has periods of perfect compensation and no venous stasis, while chronic myocarditis always has imperfect compensation, hence the ever-present congestion and the necessary caution in the selection of food. In some cases, it is safe to say in the majority of cases, the etiological factors of the cardiac lesion influence the selection of food. Though rheumatism is an infectious, microbic disease, yet it is a common observation that rheumatic patients bear red meat badly, while patients whose heart disease is due to syphilis, typhoid fever, or influenza, may eat meat of any color. A gouty heart emphatically forbids the use of meat. Cardiac disease associated with chronic kidney trouble requires a diet more adapted to the renal condition than to the defective heart. A lesion of the heart, which is preceded or followed by arteriosclerosis, puts a veto on a proteid or nitrogenous diet. Anyone who suffers from chronic heart disease should scrupulously avoid over-feeding; an overloaded stomach is the cause of sudden death in many heart cases. The patients die of "acute indigestion." Strictly speaking, death is due to the pneumogastric—it is a vagus death. Heart patients should be cautioned against the use of copious drafts of water, particularly at meals. Adopting these reasonable rules, aided and abetted from time to time by hydrochloric acid, digitalis, and a daily cathartic, the good doctor can and will pilot his endangered patient to the haven of a safe and enjoyable life.

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**Desiccated Placenta:** In *American Medicine* for January (via *Woman's Medical Journal*), Bertha Van Hoosen, basing her ideas on the observation that domestic animals devour the placenta immediately on its appearance, makes a preliminary report of the administration of desiccated placenta substance to a series of nursing mothers. The report is made hoping that others will add to our scant knowledge of organ therapy, and that infant feeding may become simplified by having a sufficient supply of breast milk. Van Hoosen gave from 30 to 50 grains of desiccated bovine placenta in divided doses during the first twelve hours after parturition. The first report was in the nature of a complaint by the nurses that the mothers had so much milk that "it was a burden to keep the breasts empty." In one day six mothers nursed their babies, allowing them to take all they would, and a total of 44 ounces of surplus milk had to be removed by the breast pump. In one case there was 16 ounces extra, in three others 6 ounces each, and in a fifth 8 ounces, and the remaining one 4 ounces. Extended tables of the weights are given, and comparisons made from which it is reasonable to deduce that this comparatively untried method increases the quantity and quality of the milk, and hence favors the reduction of the usual average loss of weight, as compared with carefully made figures from controls. No other results were noted from the administration of the desiccated placenta, except the early and gradual stimulation of the secretion of milk. This is up-to-date confirmation at home of numerous reports in French and continental medical literature to the effect that dried placenta is one of the most effective galactagogues known, and if we are to judge from our knowledge of the habits of animals its use seems rational.

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**Argyrol and Iodine:** W. J. Robinson, in the *Critic and Guide* for February, states that he has frequently warned physicians in the columns of that journal not to prescribe a number of things in the same prescription, unless they are *sure* that the ingredients go well together and are not incompatible. While he believes that his warnings have contributed in no small degree to a greater simplicity in prescribing,



now and then a physician is under the impression that if one drug is good, two must be better, and in his desire to get an extra-efficient combination will perhaps prescribe several things which nullify each other and may produce a mixture either worthless or worse than worthless, because extremely irritating. Painting a sore throat with iodine is a good procedure; so is painting it with argrol. But he instances a case where the physician, wishing to get the benefit of both drugs, recently prescribed argyrol, potassium iodide, iodine and water for painting the throat. The result was that the throat became intensely inflamed and irritated, and the patient changed doctors. The reason is easy to understand; the argyrol is completely destroyed as argyrol, silver iodide being formed, which in more or less strong solution is extremely irritating, and instead of soothing an inflamed mucous membrane will increase the inflammation. He emphasizes the caution of not putting too many ingredients in prescriptions, unless one is *sure* of his ground.

### FOREIGN BODIES IN THE STOMACH

D. C. Balfour, Rochester, Minn. (*Journal A. M. A.*, Feb. 5, 1916), reports the case of an insane woman who apparently had a penchant for swallowing teaspoons. Her habit was discovered by the nurse, who caught her in the act. A roentgenogram revealed their presence in the stomach, where they seemed to cause no special inconvenience or interruption to health. A gastrotomy, however, was considered advisable and seven teaspoons, instead of the supposed three or four, were taken out of the stomach where they had been arranged spoon fashion. The stomach was large and somewhat ptotic and its mucous membrane was somewhat thickened, but no evidence of injury was found. The spoons, which were of plated Utah metal, were somewhat larger than ordinary teaspoons and showed no erosion. The patient made an uneventful recovery.

### PROGRESS IN THE MILK INDUSTRY

Regulations involving the sanitary conditions under which cattle producing milk are kept, as well as the condition of the premises on which milk is produced and handled, began to be enacted as early as 1895. Contemporaneous with the development of this inspection movement was the growing interest in the subject on the part of the medical profession, as exemplified in medical milk commissions. These numbered about seventy-five in 1914. They have been instrumental not only in the production of what is now familiarly known as "certified milk," but also in educational propaganda which has been very effective in improving and appreciating the quality standards of the milk sold in many cities. The subject of pasteurization has been broadly ventilated, and the entire practice put on a rational basis. The question of bovine tuberculosis has been faced in a scientific way. Popular prejudices like those against milk from silage-fed cattle have been modified to fall in line with the best suggestions of animal nutrition, dairy bacteriology, economics and sanitary science. Some of the changes initiated have resulted only after considerable friction between the financial and the hygienic interests concerned. This, however, is not a new experience in the attempts of scientific knowledge to modify current procedures. Inertia is found in all walks of life. The gratifying feature of the modern milk industry is that it truly represents the application of scientific investigation. Progress has been based for the most part on study rather than mere empiricism, and the possibilities of popular education in scientific matters have been exemplified in a degree that is both significant and encouraging. To quote a recent writer, success does not flourish under an attitude of antagonism growing out of compulsion, but under one of co-operation. The inspection agencies have thus been a medium of instruction, and the experiment stations in their investigations have had the producer in mind quite as much as the consumer, in order that he might improve his business in producing a better quality of product.—*The Journal of the American Medical Association.*

## NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Calcium Phenolsulphonate, P. W. R.—A non-proprietary brand of calcium phenolsulphonate admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia, Pa.

Iron Lactate, Merck.—A non-proprietary brand of ferrous lactate admitted to New and Nonofficial Remedies. Merck & Co., New York.

Sodium Phosphate, Monobasic, Merck.—A non-proprietary brand of sodium acid phosphate admitted to New and Nonofficial Remedies. Merck & Co., New York.

Phloridzin, Merck.—A non-proprietary brand of phloridzin admitted to New and Nonofficial remedies. Merck & Co., New York.

Sulphanilic Acid, Merck.—A non-proprietary brand of sulphanilic acid admitted to New and Nonofficial Remedies. Merck & Co., New York.

Ergotin, Merck.—A non-proprietary brand of extract of ergot, purified, admitted to New and Nonofficial Remedies. Merck & Co., New York.

Antithyroidin-Moebius Tablets,  $\frac{3}{4}$  gr.—Each tablet contains antithyroidin-Moebius  $\frac{1}{4}$  gr. Merck & Co., New York.

Euquinine Tablets, 2 grs.—Each tablet contains euquinine 2 grains. Merck & Co., New York.

Euquinine Tablets, 5 grs.—Each tablet contains euquinine 5 grains. Merck & Co., New York.

Ferratin Tablets,  $7\frac{1}{2}$  grs.—Each tablet contains ferratin  $7\frac{1}{2}$  grains. Merck & Co., New York.

Stypticin Hypodermic Tablets,  $\frac{3}{4}$  gr.—Each tablet contains stypticin  $\frac{3}{4}$  grain. Merck & Co., New York.

Stypticin Sugar-Coated Tablets,  $\frac{3}{4}$  gr.—Each tablet contains stypticin  $\frac{3}{4}$  grain. Merck & Co., New York.

Stypticin Dental Tablets,  $\frac{3}{4}$  gr.—Each tablet contains stypticin  $\frac{3}{4}$  grain. Merck & Co., New York (*Jour. A. M. A.*, Jan. 1, 1916, p. 31).

Dionin Tablets,  $\frac{1}{4}$  gr.—Each tablet contains dionin  $\frac{1}{4}$  grain. Merck & Co., New York.

Dionin Tablets, 1 gr.—Each tablet contains dionin 1 grain. Merck & Co., New York.

Theophyllin Sodium Acetate Tablets, 0.15 Gm.—Each tablet contains theophyllin sodium acetate 0.15 Gm. Merck & Co., New York.

Triphenin Tablets, 5 gr.—Each tablet contains triphenin 5 grains. Merck & Co., New York.

Tubes Tropacocaine Hydrochloride, Sterilized, 1 gr.—Each tube contains tropacocaine hydrochloride, 1 grain. Merck & Co., New York.

Veronal-Sodium Tablets, 5 gr.—Each tablet contains veronal-sodium 5 grains. Merck & Co., New York.

Iodipin Tablets, 3 min.—Each tablet contains iodipin 3 minims. Merck & Co., New York.

Apiol, Merck.—A non-proprietary brand complying with the standards for apiol. Merck & Co., New York.

Creosote Carbonate-Merck.—A non-proprietary brand complying with the standards for creosote carbonate. Merck & Co., New York.

Phenolphthalein, Merck.—A non-proprietary brand complying with standards for phenolphthalein. Merck & Co., New York.

Quinine Tannate, Merck.—A non-proprietary brand complying with the standards for quinine tennate. Merck & Co., New York.

Sodium Nucleinate, Merck.—A non-proprietary brand complying with the standards for sodium nucleate. Merck & Co., New York (*Jour. A. M. A.*, Jan. 8, 1916, p. 117).

Swan's Typhoid Bacterin (No. 44) (Prophylactic).—Marketed in packages (hospital) of thirty-six vials and in packages (board of health)



of seventy-two vials. Swan-Myers Co., Indianapolis, Ind. (*Jour. A. M. A.*, Jan. 15, 1916, p. 191).

Radio-Rem, Outfit No. 5.—An apparatus designed for the production of radioactive drinking water by the action of radium sulphate contained in terra cotta plates. It consists of two plates contained in 250 c.c. bottles; when the bottles are filled with water the two plates impart about 3.6 microcurie (10,000 Mache units) to 500 c.c. water daily. For action, uses and dosage refer to the article on radium in New and Non-official Remedies. Schieffelin & Co., New York (*Jour. A. M. A.*, Jan. 15, 1916, p. 191).

Diphtheria Immunity Test (Schick Test).—This test is intended to determine those persons who have not in their blood an amount of diphtheria antitoxin sufficient to render them immune to diphtheria. The test is of special value for use in institutions and among groups of persons exposed to diphtheria, in order that it may be determined which individual should be given an immunizing dose of diphtheria antitoxin. It is also of value in the diagnosis of other conditions simulating diphtheric infections.

Diphtheria Toxin Standardized (Schick Test).—Marketed in sealed capillary tubes each containing a solution of one-fiftieth of a minimal lethal dose for guinea pigs of diphtheria toxin. H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, Jan. 15, 1916, p. 191).

Dimazon.—Diacetylaminoazotoluene. An orange-colored powder, insoluble in water but soluble in alcohol, chloroform, oils, fats and petrolatum. It does not stain the hands or cloth. It is said to be useful to promote the growth of epithelium in the treatment of burns, wounds, chronic ulcers, etc. Dimazon is marketed as follows:

Dimazon Oil.—2 per cent.

Dimazon Ointment.—2 per cent.

Dimazon Powder.—5 per cent. Heilkraft Medical Co., Boston, Mass. (*Jour. A. M. A.*, Jan. 22, 1916, p. 275).

Ichthalbin Tablets, 5 gr.—Each tablet contains ichthalbin 5 grains Merck & Co., New York.

Triferrin Tablets, 5 gr.—Each tablet contains triferrin 5 grains. Merck & Co., New York.

Betanaphthol Benzoate, Roche.—A non-proprietary brand complying with the standards for betanaphthol benzoate. Hoffmann-LaRoche Chemical Works, New York.

Betain Hydrochloride, Roche.—A non-proprietary brand complying with the standards for betain hydrochloride. Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Jan. 22, 1916, p. 275).

Ergotinine Citrate, Roche.—A non-proprietary brand complying with the standards for ergotinine citrate. Hoffmann-LaRoche Chemical Works, New York.

Homatropine Hydrochloride, Roche.—A non-proprietary brand complying with the standards for homatropine hydrochloride. Hoffmann-LaRoche Chemical Works, New York.

Seiden Peptone, Roche (Silk Peptone).—A non-proprietary brand complying with the standards for silk peptone. Hoffmann-LaRoche Chemical Works, New York.

Theobromine and Sodium Acetate, Roche.—A non-proprietary brand complying with the standards for theobromine sodium acetate. Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Jan. 29, 1916, p. 355).

During January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

E. R. Squibb & Sons:

Antistreptococcus Serum, Rheumaticus.

Lyster Brothers:

Lyster's Prepared Casein Diabetic Flour.

## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred and twenty-sixth regular meeting of the Academy of Medicine was held Friday, January 21, 1916, at the Cleveland Medical Library, the President, Doctor Wm. E. Bruner, in the chair.

The minutes of the last meeting were read and approved.

The minutes of the special council meeting of December 22nd and of the regular council meeting of January 19th were read and approved.

Doctor C. E. Ford read a communication signed by the President of the Cleveland League for Nursing Education, by the Vice-President of the State League for Nursing Education; by the Superintendent of the Huron Road Hospital and the Superintendent of the Babies' Dispensary Hospital, calling attention to the fact that opposition had developed in the country districts against a ruling of the State Medical Board requiring a daily average of fifteen patients for hospitals running schools for nursing.

On motion by Doctor C. F. Hoover the Secretary of the Academy was directed to communicate with the Ohio State Medical Board that the members of the Academy approve the ruling of the board as announced—that hospitals maintaining schools of nursing must have a daily resident average of fifteen patients.

Doctor Bruner asked Doctor H. A. Berkes to present for the information of the members the data which he had compiled upon the attendance upon the clinical and pathological section for the past five years. Doctor Bruner then compared this with a similar compilation for the general meetings of the Academy during the same period. He stated that the comparison allowed no general rule to be laid down as to what kind of meetings the members desired, and that the Council desired members to make suggestions whenever they wished, and that he personally wished the members to make the coming year more successful than previous years.

### Program

#### 1. Outline of Results of Starvation Treatment for Diabetes, by C. D. Christie, M. D.

The report covers a series of cases treated under the observation of the speaker at the Lakeside Hospital, and shows results which were obtained under the "Allen" treatment, so-called. The methods employed by Allen, differ from those heretofore employed, chiefly in regard to the freedom with which he uses starvation to render his patients sugar free. He previously showed, that starvation does not favor the development of an acidosis.

The routine treatment as employed at Lakeside hospital consists of putting the patient, on admission, on a so-called test diet, in which the available sugar content can be accurately determined. During the two days in which the patient remains on this diet, determinations made on the patient's blood and urine enable deductions to be drawn as to the degree of severity of the diabetes in any given case.

The same having been determined, the patient is put on starvation. During this period he is given small amounts of whisky at intervals, or black coffee, unsweetened, if desired. The whisky furnishes him with readily convertible energy, and as it does not pass through the sugar stage in its metabolism, is not contra-indicated. The patient is kept on starvation until he is sugar free. In the average case under observation, several days sufficed to render the patient sugar free. Several cases were kept on starvation for periods as long as 10 to 12 days. Two patients died, but in neither case could the starvation or general treatment be held responsible.



When once sugar free, the patient is started on small amounts of carbohydrate, protein and fat, gradually increased. At first it is desirable to use vegetables twice boiled, the first water being discarded. In this way the patient receives a large bulk with a relatively small carbohydrate content.

Under this treatment the large percentage of the cases reported became sugar free and remained so. Before leaving the hospital they were instructed as to diet, testing their urine for sugar, etc. A number of cases discharged, but still under observation, show excellent results, having remained permanently sugar free.

The poorest results are obtained in the class of patients which come under the category of absolute diabetics, where even after complete rest, the pancreas is unable to resume even a tithe of its former function.

The treatment of diabetes as outlined by Allen represents one of the greatest therapeutic advances of recent years.

E. P. Carter, in discussion, asked what experience the speaker had had with trophic lesions, in his cases of diabetes. He cited a case under his observation at City Hospital, where the patient, a man with an extensive diabetic gangrene of the foot, had cleared up promptly when his glycosuria and hyperglycemia were abolished.

J. J. R. Macleod, in discussion, called attention to the observation that the principles of the method of Allen are not original with him, but were advocated and practiced by a number of workers, in the past.

C. F. Hoover, in discussion, declared that it is only with the present treatment at its command that the medical profession has been able to do anything but nurse diabetics. All credit should be given to Allen. Other observers of the principles employed by Allen are like the scientists who saw lightning before Franklin. The speaker served in a number of the clinics where the principles were said to have been employed, but they were not used. Allen had the courage to starve diabetics in the face of a possible acidosis.

Stewart, cited a statement by Pavy, to the effect that in the case of diabetics, if the carbohydrates in their food were diminished for a little while, one could then give larger quantities of carbohydrates which would be tolerated. Allen is the originator of this treatment but others who preceded him should be given credit as well.

N. Rosenwasser, called attention to the fact that in treating diabetics he had for years advised them to double boil their meat. He disagreed with the giving of whisky, on the grounds that if rest were the object of the starvation, the administration of whisky was not conducive to it.

C. D. Christy, in rebuttal, declared that starvation is an absolute necessity in the treatment of diabetes. It is interesting to note that in some cases, complicated, the one with a gangrene, another with an eczema and still another with a carbuncle, these lesions cleared promptly on treating the diabetes.

## 2. Dissociation Jaundice, by C. F. Hoover, M. D.

The condition was first observed and described by French clinicians and a few cases have also been recorded from time to time in the German medical literature. Accounts of no cases have appeared in the English literature.

The meaning of the term dissociation jaundice is obvious and is exemplified by cases in some of which bile salts have been held back, only the pigments appearing in the blood, urine, etc., and vice-versa. The evidence on which the verity of such cases rests is a slender one. We can only accept a case as one of genuine dissociation jaundice when observations relative to bile salts and pigment in the blood, skin, urine and stool have been made. The absence of pigment or salts from the urine by no means proves that the same do not exist in the blood.

Thus, the case of a woman with an acute syphilis, roseola, psoriasis of the palms, with a large liver and a marked jaundice. Both salts and

pigments were found in the urine. After a period of treatment, the bile pigments disappeared from the urine. The blood, on the contrary was at that time as deeply tinged with bile pigments as before.

In examining the blood plasma for bile, the best test is visual inspection, next the nitric acid test, noting in the latter the blue-green band beneath the yellow band at the junction of the two fluids. A case where bile pigments exist in the blood but do not appear in the urine, may be explained by supposing a fixation of the bile pigments to lipoids in the blood, thus none being presented to the kidney, for excretion.

In pernicious anemia, a patient, as proven in a series observed at Lakeside, may have both bile salts and pigments in the plasma of the blood, but not appear jaundiced. The only case in which the speaker has observed blood urobilin in the blood plasma was in a case of perforated gastric ulcer, of infectious origin. The method used for demonstrating bile salts at Lakeside is dialysis through colloidal sacs.

It is to be remembered that the presence of bile pigments or salts in the urine represents the last stage of jaundice. It is a remarkable fact that a patient with pernicious anemia can carry bile pigments and salts in the blood plasma for months without apparent jaundice, and without bile appearing in the urine.

G. W. Stewart, in discussion, pointed out that it may perfectly well be that bile salts and pigments are bound to elements in the blood plasma in cases which show biliary elements in the blood and none in the urine.

R. K. Updegraff commented on the value of an explanation for the absence of biliary elements in the urine, with a pronounced jaundice.

Attendance, 126.

## EXPERIMENTAL MEDICINE SECTION

The eighty-fifth regular meeting of this section was held Friday, January 14, 1916, at the Cleveland Medical Library, with T. Wingate Todd, temporary Chairman, in the chair.

The regular program follows:

### 1. Special Affinity of Profused Thyroids for Iodin, by David Marine.

When one lobe of the thyroid gland is removed in an animal, and any form of iodine is fed to the animal, the remaining portion of the thyroid gland will retain a certain percentage of the iodine given. The amount of iodine retained depends, naturally on the size of the portion of the gland remaining and also on its degree of hyperplasia. Thus in one instance a dog with a portion of his thyroid removed, was given 50 mg. of iodine, as potassium iodide and 68 per cent. of this was subsequently recovered from the remaining portion of the thyroid gland.

In the *in vivo* experiments performed by the author, the kidneys of an animal were ligated and 50 mg. of potassium iodide injected into the femoral vein. The animal was killed at the end of one hour and 7.6 per cent. of the iodine given was recovered from the remaining portion of the thyroid. Further work has shown that the thyroid will take up this amount almost instantaneously. The form in which the iodine is administered is of no importance. The results in all cases are the same.

In still other of the author's cases, the entire thyroid was removed from animals, and with the aid of a special apparatus devised for the purpose a solution of blood (defibrinated), and Ringer's solution was profused through the organ. In various cases the solution used contained from 5 to 32 mg. of potassium iodide. Profusion of the thyroid is very easily accomplished, since the profusing fluid need only be under a pressure of 40 mm. of mercury. In one case the organ was profused for as long a period as 5 hours. After the profusion, followed by thorough washing out of the vessels of the organ, the gland was found to have increased its original iodine content more than 700 per cent in some cases.



Here again, the amount retained varies with the size of the gland and the degree of hyperplasia.

In all of the experiments it was found that the affinity of the thyroid for iodine was great, that of other organs for the drug being practically nil. The concentration of the iodine administered has but little effect on the amount retained. As is well known, the cyanids are great inhibitors of protoplasm. When they are given prior to the administration of iodine, it is found that practically none of the latter is taken up by the gland. A dead or dying thyroid loses iodine rapidly and shows no affinity for the substance. On perfusion of a thyroid, iodine in small amounts can be washed out, which last seems good proof for the conclusion that iodine is discharged from the thyroid gland through the blood stream. The iodine taken up by the thyroid, as shown by the standard test with tadpoles is pharmaceutically inactive at the end of 1 hour. At the end of from 36 to 48 hours, however, the iodine has been converted into thyroiodine, and is pharmaceutically active.

G. W. Crile, in opening the discussion, asked whether the author in his work had considered the H-ion concentration of the blood used as a perfusing fluid?

David Marine, in rebuttal, replied that he had not.

## **2. The Relation of the Brain to the Occipital Fossae of the Skull, by Davidson Black.**

The brain unquestionably plays a large part in the molding of the skull, especially in the occipital region. The relation between the brain and skull, relative to the effect exerted on the contour of the latter by that of the former is important, because, all our knowledge of the brains of primitive men and animals must of necessity be drawn from a study of their skulls. How reliable is the comparison? The answer to this question can only be obtained by checking up the relation between the modern brain and skull, and then reasoning from these results by analogy.

After an extensive discussion of the subject, the author arrived at the conclusion that in a large per cent of cases, the development of the contour of the occipital region of the skull is simply in accordance with an atavistic tendency, and is not dictated by the contour of the brain. This can easily be explained since some portions of the occipital region of the brain do not come into close enough contact with the skull to influence its development. Particularly is this true of the portion of the skull in relation to the vermis of the cerebellum. Here the vermis is separated from the bony part by a distance of 1 cm., or slightly less. In some cases there is a bony ridge in this location, in others a fossa.

## **3. Tissue Transplantation with Reference to Permanence and Function, by O. T. Manley.**

The author reviewed an extensive series of experiments dealing with this subject. One must differentiate in the first place between takes and growth. A transplant may take for a variable period, usually short, but ultimately it will die and disappear. When the transplant actually grows, it survives for a much longer period. For such a transplant to survive permanently, however, a need for additional thyroid secretion must exist in the body.

In the series, transplants were made in a variety of different locations in the body. However, the routine site was in the fat of the abdominal wall, where favorable opportunities for growth were offered and where examination of the transplant from time to time was easily accomplished by a small superficial skin incision.

In the main, the author concluded that the auto graft stands a much better chance of surviving ultimately or at least for a long period, than does the homo graft.

## CLINICAL AND PATHOLOGICAL SECTION

The one hundred and thirteenth regular meeting of this section was held Friday, January 7, 1916, at the Cleveland Medical Library, the Chairman, Frank J. Geib, in the chair.

The regular program follows:

**1. Report of a Case of Urinary Retention without other Symptoms due to Syphilis, by T. S. Keyser.**

The case occurred in a elderly woman, husband a cerebro spinal luetic, who with her husband acquired the disease almost 30 years ago, both going through a typical course of primary and secondary eruption. Since her secondary eruption, however, the woman has had absolutely no signs of a syphilis and has enjoyed uniformly good health. Recently however, she has complained of urinary retention.

Cystoscopic examination showed one important finding, namely, marked trabeculation of the bladder wall. The Wassermann on the blood in this case was negative. After entrance of the patient to Lakeside hospital lumbar puncture was done, and 14 cells found in the spinal fluid. The Wassermann on the fluid was also strongly positive.

Some writers consider trabeculation of the bladder wall, in the presence of no organic obstruction to the urinary outflow, as a sign almost pathognomonic of syphilis. Such a case as the present one would undoubtedly be classified as an early tabes.

F. W. Herrick, in opening the discussion, called attention to the fact that trabeculation of the bladder wall in a case of syphilis is caused by spasmodic contraction of the sphincter muscle, followed by strong contraction of the bladder wall, over a long period, in an effort to expel the urine. Spasmodic strictures of the bladder sphincter, the cardia and pylorus of the stomach and the anus, are important points to consider in the diagnosis of an early tabes. Such cases later often show *typical* signs of a spinal syphilis or tabes.

**2. The Importance of the Use of Certain Diatetic and Medical Means in the Prevention of Certain of the So-Called Constitutional Diseases, Scurvy, Spasmophilic Diathesis, Exudative Diathesis and Rickets, by H. J. Gerstenberger.**

The infant should be considered as a mass of different tolerances, for food and infections. The normal child has sufficient tolerance generally speaking, to develop in the manner which we designate as normal. It is noteworthy that the child at the breast is less susceptible to disease. We may say that artificial food represents an abnormal stimulus.

Scurvy develops largely in children fed on heated milk or on patent food of some sort. When put on raw milk some of these children improve, while with others orange juice or potato water is necessary to restore them to normal. On the other hand in spite of all these measures scurvy may develop.

Rickets seems to develop in children receiving an excessive amount of milk, thus a high fat and protein intake. Spasmophilic diathesis may also occur. In rickets we employ calcium acetate, cod liver oil and phosphorus. Some children may improve with one factor, others with another. Some will not improve in spite of all.

It would seem a rational thing to give the remedy for these conditions before they develop, as a prophylactic. First, the child's food should be suitable, as near as one can determine for each given child. Also, all children should receive orange juice, and cod liver oil. In exudative diathesis, children should be put on a low fat diet.

J. J. Thomas, in opening the discussion, asked the speaker wherein the virtue of cod liver oil lay. According to Czerny it is merely a fat, to be used when not enough fat is obtained in the food. Also, Czerny in



his cases lowers the fat in the food in such cases and gives meat and carbohydrates.

H. J. Gerstenberger, in rebuttal, said that the element in the cod liver oil which causes improvement is not known. According to some observers it is a vitamine. Others say that other fats will have the same influence.

### 3. Significance of Syphilis in Obstetrics, by W. D. Fullerton.

The medical profession has failed to enlighten the masses on the role played by syphilis in obstetrics. When the chancre occurs during pregnancy it is larger, moister, and of longer duration than usual, for it may last as long as 12 weeks. The secondary eruption under such circumstances is also more inclined to be pustular. There is more glandular enlargement, more tendency to ulceration about the vulva and more severe constitutional symptoms. During pregnancy the Wassermann often becomes strongly positive.

Syphilis is without question the most common disease occurring during pregnancy. Probably 5 per cent of every 100,000 pregnant women are infected. Some authorities declare that for every 1,000 healthy births, there are between 500 and 600 miscarriages from all causes, syphilis, however, playing the most important part in their production.

The earlier the abortion, in cases of syphilitic etiology, the earlier has the infection been acquired by the mother and the more virulent it is. Syphilis is also a common cause of sterility. Likewise, many syphilitic children die after birth. Even if the mother is infected late in pregnancy, the fetus may still acquire the disease. However, certain cases seem to show, at least as far as can be determined clinically, that a syphilitic woman may bear a non-syphilitic child.

It is the duty of the physician to be versed in the signs and symptoms of congenital lues, so that he may recognize it promptly whenever it crosses his path.

Broadly speaking, a syphilitic, after three years intensive treatment, followed by two years in which no evidence of lues has appeared, may marry with the hope of having a healthy offspring. Lues, when discovered in either the father or the mother should be treated vigorously. Salvarsan produces good effects. It is to be remembered that all drugs used in the treatment of syphilis pass through the placenta to the fetus. In treatment of syphilis in infants, mercurial inunctions are to be recommended.

It is specially recommended that the obstetrician should be able to recognize a luetic placenta. A good history early in pregnancy, together with a careful physical examination is helpful. All placentas should be routinely examined. On children born dead autopsies should be secured if indicated.

H. J. Gerstenberger, in opening the discussion, pointed out that just as good results are obtained in treatment of syphilis in children by employing gray powder, as by inunctions, with the added advantage that with the former there is no resultant dermatitis.

E. O. Houck, in discussion, stated that in his practice he rarely saw a luetic infant. Further, the percentage of miscarriages to births seems far too high. As for taking histories, this is unfeasible in many cases. It would result in prompting family discord and in making the physician unpopular.

M. J. Lichty, in discussion, also commented on the fact that the proportion of miscarriages to normal births seemed abnormally high.

## OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SECTION

The eighty-second regular meeting of the Ophthalmological and Oto-Laryngological Section was called to order at 8:30 P. M., on January 28, 1916, at the Cleveland Medical Library, the chairman, Doctor Wm. B. Chamberlin, in the chair.

The minutes of the last meeting were read and approved.

Doctor J. E. Cogan showed a patient, a young woman with punctate keratitis with positive tuberculin reaction. The patient had showed marked improvement following the use of tuberculin; showed a return of trouble during discontinuance of treatment and improvement following the resumption of tuberculin treatment. At present the patient shows two areas in the left cornea and one in the right in a quiescent state.

Doctor W. C. Tuckerman showed a patient whom he had presented to the section two or three months previous, with a fungoid growing over the right cornea which ordinary X-ray treatment had failed to check. It is at present decreasing in size under the use of the new Coolidge tube.

The program of the evening was opened by Doctor Lauder, who reported three patients; one, a girl of 5 years with phlyctenular keratitis which gave a positive tuberculin reaction; another, a woman of 37 years with an active ulcer on the right cornea; and last, a man of 36 years who had had recurrent attacks of punctate keratitis of the left eye during a period of several years. These all gave positive tuberculin reaction and improved under tuberculin treatment. Doctor Lauder believes that in previous years we have overlooked the tubercular nature of keratitis.

Doctor W. E. Shackleton reported 11 cases of tuberculosis of the eye; 5 gave systemic reaction; 8 local reaction; 6 focal reaction; 5 were apparently cured under tuberculin treatment; 2 gave improvement; and the others have not been followed long enough to judge results. One case was of particular interest, as it came in, July, 1914, with a history of injury to the eye and was treated as such with poor progress until October, when a tuberculin test was made showing a marked positive reaction, and prompt improvement ensued on instituting tuberculin treatment.

Doctor Metz reported a study of a number of cases of tuberculosis of the eye with detailed findings.

The papers of Doctor Metz and Doctor Shackleton will appear in full.

Present, 15—Doctors Chamberlin, Lauder, Cogan, Kochmit, Quittner, Carpenter, Moore, W. C. Tuckerman, Opperman, Monson, Metz, Hartzell, Doctor Knowlton, of Berea, and Doctor Stevenson, of Akron.

### COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine held Wednesday January 19, 1916, at the University Club, the following were present: The President, Doctor Wm. Evans Bruner, in the chair; Doctors Moorehouse, Selzer, Weir, Undegraff, Sanford, Bernstein, J. J. Thomas, Houck, Geib, Ford, Lester Taylor, J. E. Tuckerman. By invitation, Doctors H. A. Berkes and W. H. Tuckerman.

The minutes of the last meeting were read and approved.

Letters or resignation were received from the following:

Doctor J. A. Riley, dated December 2, 1915.

Doctor Wm. Clark, dated January 12, 1916.

Doctor W. H. Herrick, dated December 29, 1915.

Doctor H. H. Webster, dated December 15, 1915.

Doctor J. S. Wood, dated January 4, 1916.

On motion the resignations of Doctor J. A. Riley and Doctor Wm. Clark were accepted.

Doctor Moorehouse reported that on request of the Secretary he had endeavored to ascertain whether by reason of length of membership and some service in the society it would be well to place Doctors Herrick and Webster on the non-active list. Doctor Moorehouse made no recommendations.

Doctor Sanford moved that the requests for resignation be accepted and that the names be placed on the non-active list. Second by Doctor Ford. Doctor Bernstein moved to amend the motion by striking out "and placed on the non-active list." Second by Doctor Houck. Amendment lost, three to ten. Original motion carried.



A request was received from Doctor Hess, formerly of this city, asking that the local society endorse his application for license to the New Mexico Board of Health and Medical Examiners. The propriety of so doing was thoroughly discussed. On motion the Secretary was directed to communicate with the New Mexico Board that in the light of Doctor Hess' recent activities the Council of the Academy could not authorize the endorsement.

On motion Doctor Sanford was appointed to arrange with the Medical Library Association for the use of the rooms throughout the year.

On motion the Secretary was directed to confer with the officers of the *Cleveland Medical Journal*.

On motion the Secretary was directed to arrange for the operation of the projectoscope.

On motion the following members of the Academy were appointed to the milk Commission:

Doctors John Phillips, J. J. Thomas, H. J. Gerstenberger, and S. W. Kelley.

Doctor J. J. Thomas reported that the special committee to confer with Mayor-elect Davis had transmitted to Mr. Davis the resolutions adopted by the Academy, but that after several tentative appointments he had been unable to arrange a meeting between the committee and either Mr. Davis or the Director of Public Welfare, Mr. Beman.

On motion the report of the committee was received and the committee discharged.

A communication was received from Doctor R. G. Perkins asking for the appointment of the following members to act with him on the Committee on Public Health:

Doctors J. J. R. Macleod, W. H. Merriam, E. F. Romig, J. C. Placak. Approved.

Doctor C. E. Ford asked to appoint the following as members of the Legislative Committee, leaving two appointments open for special work:

Doctors R. H. Bishop, Jr., C. W. Eddy.

Approved.

Doctor Sanford made a partial report for the Civic Committee, asking the appointment of Doctor W. A. Peterson as a member of the committee, and requesting that he be allowed to fill the committee at the next meeting of the Council.

Approved.

Doctor G. W. Moorehouse asked for the appointment for the following as members of the Membership Committee:

Doctors W. W. Bucher, W. W. Jones, P. A. Jacobs, J. C. Fox, Jay D. Sharp, W. Garber.

Approved.

The resolution introduced by Doctor Moorehouse at the general meeting of the Academy, December 17, 1915 (see minutes, page 417), was accepted by the Council.

The Council and the Program Committee then proceeded to a consideration of the policy to be followed in arranging programs for the coming year.

Doctor H. A. Berkes gave a summary of the types of papers, attendance, and number of men participating by reading or discussion in the meetings of the Clinical and Pathological Section for the past five years.

It was suggested that the President might very well outline for the Academy the nature of the activities which might be followed during the coming year.

On motion by Doctor Ford, the chair was asked to appoint a committee on revision of the Constitution and By-Laws of the Academy. The chair appointed Doctors G. W. Moorehouse, C. E. Ford and J. E. Tuckerman.

Doctor E. R. Selzer reported upon certain recent interpretations of the narcotic law. The matter was referred to the Program Committee

with the request that a statement on this subject be prepared for some general meeting of the Academy.

On motion by Doctor Updegraff the Membership Committee was requested to see that prompt notice was taken by the Council of any deaths in the membership of the Academy.

Doctor Sanford stated to the Council that he had been requested to write an article upon a subject in the field of eugenics—the same to be printed by the Federated Churches and distributed to their members at their discretion.

Doctor Sanford asked (in event he should comply with the request) that if he were to submit the article to the Council for its consideration and the Council found the subject matter fittingly presented, the Council would consent to its publication as "authorized by the Council of the Academy of Medicine of Cleveland."

On motion the opinion was expressed by the Council that such authorization would be in keeping with the policy of the Academy in furthering proper understanding of health problems by the public.

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At a meeting of the Council of the Academy of Medicine held Wednesday, Feb. 9, 1916, at the University Club, the following members were present: The president, Doctor Bruner, in the chair; Doctors Sawyer, Weir, Taylor, Updegraff, J. J. Thomas, Geib, Bernstein, Moorehouse, Ford, Chamberlin and J. E. Tuckerman, and by invitation Doctor P. J. Hanzlik.

The minutes of the last meeting were read and approved as corrected.

Moved and seconded that the Council meet regularly upon the second Tuesday of each month at 6:30 p. m. Carried.

On motion the following applicants were elected to associate membership in the Veterinary Section:

H. Fulstow, Norwalk, O.

Phil. H. Fulstow, Norwalk, O.

C. A. Johns, Medina, O.

Wm. F. Wise, Medina, O.

On motion the names of the following applicants were ordered published:

For active membership: E. F. Freedman, M. D.

For non-resident membership: Carl R. Steinke, M. D., Akron, O.

On motion the following resignations were accepted:

I. Belkowsky, M. D.

S. E. Kaestlen, M. D.

O. P. Walker, M. D. (removed to Memphis, Tenn.).

On motion the correspondence touching the resignation of J. S. Wood, M. D., was referred to the membership committee.

The question was raised whether a member living in a neighboring county but holding office hours in Cleveland should be accredited to the state association from the county in which his office is located or from the county in which he lives. On motion the secretary was directed to get a ruling from the state society on this matter.

The secretary reported for Doctor Sanford that Doctor Sanford had made arrangements for the use of the auditorium at the medical library upon a basis of \$1.00 for every active member for the current year.

The secretary reported that the directors of the Cleveland Medical Journal had agreed to send the journal to the active members of the Academy at \$2.00 per member.

The secretary reported that he had arranged to have Mr. Harding operate the projectoscope at \$2.00 per evening.

On motion these reports were approved and the secretary authorized to make the payments.



## BOOK REVIEWS

**A Synopsis of Medical Treatment.** By George Cheever Shattuck, M. D., Attending Physician to Massachusetts General Hospital. Second revised printing of the Second Edition. W. M. Leonard, Boston, 1915. Price, \$1.25.

"This work represents an attempt to offer clearly and concisely sound principles of treatment based on known pathology." This statement from the preface sets forth the author's purpose, which purpose should be the object of every text-book of therapeutics. A text-book of treatment should set forth under each disease considered the principles upon which that disease should be treated. These principles are based on a definite knowledge of the known pathology of that disease. This is one of the very few text-books in which these principles are definitely stated, in which they occupy first place and in which the author's favorite methods and prescriptions are not even mentioned.

The article on Cardiac Insufficiency serves as an example. First are set down the General Principles of Treatment. Then follow the methods by which these principles may be attained. "Rest" is one of the principles. It may be attained by (1) Semi-recumbent position in bed or chair. (2) Minimum exertion. (3) Relief of discomfort and securing sleep. Drugs are mentioned only when they definitely aid in putting into effect one of these principles of treatment.

Not all diseases are considered, but those which are taken up are representative.

It is only a small book—some 185 pages—yet it is the nearest approach to an ideal text-book for the beginner in therapeutics that has appeared. It is just as valuable for the man of long experience for whom the real principles of treatment have become obscured by personal fads and pet methods.

H. C. K.

**On Dreams.** By Sigmund Freud. Translated by M. D. Elder; 110 pages, 12 mo. Rebman Company, New York, 1915. Price \$1.00.

When this short essay, achieved in book form, has been completed the reader has a quickened sense of the dramatic nature of medicine and of its romantic possibilities. The author has here brought his theories and their sources and explanations together into a most delightfully readable form. The theories are ingenious and although not generally accepted, they have been the foundation of methods of treatment in mental cases which has assuredly in many cases been successful. That the success may come from other reasons than those given by Freud does not lessen the charm of his ideas nor the interest they have aroused. The further developments along these lines, the psychology of dream life and the relation existing between past psychological states and present mental pathological conditions, will be watched with active interest by those who have read this exciting little volume of Freud's.

*(The above publication of the Rebman Company, through some oversight, was credited to another publishing company in our January issue. We are therefore glad to make this reprint of the review giving name of publisher as it should be.)*

H. H.

**The Practical Medicine Series, Volume VI, General Medicine.**

Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A. M., M. D., Professor of Medicine, Illinois Post-Graduate Medical School. Series 1915. The Year Book Publishers, Chicago. Price, \$1.50.

This volume includes those of the Infectious Diseases not considered in Volume I. Those treated in this volume are those occurring with par-

ticular frequency in the summer. Besides this there are chapters on Diseases of the Mouth, Esophagus, Stomach, Intestine, Liver and Gall-bladder and of the Pancreas.

There are 126 pages devoted to the work of the year on the Diseases of the Stomach. This section is well worth reading. It is of value to one interested in any branch of medicine or surgery. The newer work in the diagnosis of gastric and duodenal ulcer and gastric cancer is well presented. Fractional gastric analysis by means of the Rehfuß tube and the use of the duodenal tube are discussed in detail.

Both of these volumes dealing with general medicine may be recommended to the general practitioner or the internist as being interesting and accurate accounts of the year's progress. Much of the work is of interest and value to the practitioner in any branch of medicine or surgery.

H. C. K.

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**A Textbook of the Practice of Medicine.** By James M. Anders, M. D., Ph. D., LL. D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College, Philadelphia. Twelfth edition, thoroughly revised. Octavo of 1336 pages, fully illustrated. W. B. Saunders Company, Philadelphia and London, 1915. Price, cloth, \$5.50 net; half morocco, \$7.00 net.

There are better single volume works on the Practice of Medicine. The arrangement is excellent, but there are many inaccuracies and as a whole the work is far from being up-to-date. In discussing goiter, the author speaks as if the administration of desiccated thyroid were just beginning. He says, "recently the fresh chopped thyroid glands of the sheep, spread on bread, was given in 20 cases." Under Graves' Diseases he says, "antithyroid preparations give promise of good results." Under the treatment of leukemia the author just mentions in passing that a certain foreigner tried benzol in five cases and he gives us no idea of the present status of the treatment.

Speaking of empyema as a sequela of lobar pneumonia, he says, "indeed empyema has of late been shown to be a frequent complication of pneumonia," and cites a reference to five cases reported in 1902. Neither has the author gotten beyond the stage of regarding pneumonia as a disease of the lungs.

There are far better books on the subject. It is not a safe guide for the student and is too far behind the times to be of value to the practitioner who has not been asleep for several years.

H. C. K.

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**The Practical Medicine Series, 1915, Volume I, General Medicine.**

Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A. M., M. D., Professor of Medicine, Illinois Post-Graduate Medical School. The Year Book Publishers, Chicago. Price, \$1.50, net.

Volume I of the series of 10 volumes includes sections upon some of the Infectious Diseases, Diseases of the Lungs, Heart, Arteries, Blood, Blood-making Organs and the Ductless Glands and Metabolic Diseases and Diseases of the Kidneys.

The work of the past year in these fields is well presented. The editors have efficiently separated the wheat from the chaff. The paragraphs dealing with the etiology and symptomatology of pulmonary tuberculosis may be read with profit by everyone. The sections on the Heart, that on Leukemia, and the article on Diseases of the Thyroid deserve mention as being of value.

H. C. K.



**The Medical Clinics of Chicago, Vols. I, 2, 3 and 4. January, 1916.**

Published bi-monthly by the W. B. Saunders Company, Philadelphia and London. (Six Numbers a Year, \$8.00.)

The Medical Clinics of Chicago are published by Saunders every other month, alternating with the Surgical Clinics of John B. Murphy. The numbers are to contain the reports of clinics at the bedside and in the amphitheatre of the leading Chicago hospitals. All branches of internal medicine, including Neurology. Pediatrics and X-Ray Therapy are to be considered. Selected at random are a few of the subjects presented in the first four numbers. Infantile Tuberculosis, Origin, Diagnosis and Management of Cases, Syphilitic Aortitis, Aplastic Pernicious Anaemia, Tuberculous Meningitis, Auricular Fibrillation, A Case of Brain Tumor, Eye Finding with a discussion of Choked Disk, and other Ocular Manifestations. Their value in diagnosis, prognosis, and localization.

It is difficult to judge such a publication in terms of value which shall fit the standard of everyone. For some of the more fortunately situated of our brethren many of the articles may appear rather elementary. For the rest of us they will fill a real need. They are interesting and they are readable. They will be of immense value to many physicians throughout the country.

H. C. K.

**Urgent Surgery by Felix Lejars.** Translated from the 7th French edition by William S. Dickie, F. R. C. S., and Ernest Ward, M. A., M. D. Volume II. **Genito-Urinary Organs—the Rectum and Anus—The Strangulated Hernias—The Extremities.** Wm. Wood & Co., New York 1915. Third English impression. Pages, 588; full page plates, 20; illustrations, 1,086. Price, \$7.00 net.

As this volume is not a work unknown to the profession and as we have been fully prepared for it by use of the first volume, it is certain that the book rises to the high expectations that may have been formed for it. Coming at a time when so much is being written about urgent surgery as required in war, it is well to recapitulate the similar needs in civil life. What is written by Lejars on wounds of the extremities, including fractures, dislocations, wounds of soft tissues, tendons and nerves is all the result of his long and diligent work. It is true that some of these subjects have been opened afresh by war surgery, but Lejars deals with them under headings of "simple" and "complicated" so that his writing will stand the test of comparison.

If one were to collect only the aphorisms, cautions, warnings, and "don'ts" they would make alone a book of some consequence. For example he writes, "a deformed callus is a weak callus." "The surgeon must be prepared for anything and astonished at nothing during the course of an operation for strangulated hernia- . . . and the whole energies directed to meeting the primary indications." Concerning compound fractures is the caution, "Avoid early amputation, but do all that is necessary to prevent infection." Then what to do to prevent infection is definitely told.

In the treatment of fractures Lejars joins the forces of those opposed to operation unless there is special reason, e. g., "Apart, however, from such special indications, it does not seem that in ordinary practice there is a very large field for operative measures in the treatment of single fractures." The use of bone graft (except intramedullary pegs) has been omitted.

The section on Genito-Urinary organs includes the diagnosis, symptoms and treatment of urinary extravasation, urinary abscess, traumatic ruptures of the urethra, foreign bodies in the urethra, and urgent catheterization. These are chapters which should be in the hands, if

not in the minds, of all doctors; for too often is treatment of one of these wrongly instituted when a "neighborhood doctor," not well versed in this branch, is called in a hurry.

The book will appeal to the physician also as an aid to diagnosis, because he is so often the first to see a surgical case. Lejars fittingly states, "There are not two degrees of surgery, major and minor, there is one only, that which fulfils the indications in the best and most simple manner and most speedily restores the patient to health." Symptoms, diagnosis, indications are as clearly set forth as treatment. Postoperative treatment is also given a place where essential.

The style of the author borders on that of case teaching, since a verbal picture of a case is drawn for the reader that he may remember it more easily. The pictures and diagrams are clear and in nearly all cases a distinct aid to the text. Furthermore, the size of the book and choice of print, without waste of space, will commend this volume to all doctors. That the book has lost none of its charm in the translation is evidenced by the fact that two men have been concerned in translating and yet the book reads the same throughout.

A. S.

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**A Treatise on the Principles and Practice of Medicine.** By Arthur R. Edwards, A. M., M. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine, and Dean of the Faculty in the Northwestern University Medical School, Chicago. Third Edition, Thoroughly Revised and Rewritten. Illustrated with 80 Engravings and 23 Plates. Lea & Febiger, Philadelphia and New York, 1916. Price, cloth, \$6.00 net.

Of the single volume works on Practice this is one of the best that the writer has seen. The arrangement is orderly and the headings clearly indicated. The etiology is presented in the light of our newer ideas on many diseases. The symptomatology is presented in a thorough and interesting manner and contains much that does not appear in the ordinary books of this type. The sections on treatment are excellent. The suggestions they present are definite and are modern. In cases of hypertension the author says, "vasodilators must not be used indiscriminately." He has correctly estimated the value of benzol in leukemia.

The section on Diseases of the Heart is up-to-date and the role of syphilis in the production of disease of the aorta and aortic valves is emphasized. The arrhythmias are described in the light of our newer knowledge gained by the electrocardiograph.

There is one statement that cannot be passed by unnoticed. In place of the stereotyped description of Lobar Pneumonia as a disease of the lungs we find this. "Toxemia is the dominant feature of pneumonia and consolidation is secondary. The degree of toxemia has no constant relation to the amount of consolidation, just as the toxemia of typhoid does not depend on the presence or degree of the intestinal changes." The book can be recommended to anyone wishing a modern one volume work on the Practice of Medicine.

H. C. K.

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**Painless Childbirth, Eutocia and Nitrous Oxide-Oxygen Analgesia.** By Carl Henry Davis, A. B., M. D., Associate in Obstetrics and Gynecology, Rush Medical College in Affiliation with the University of Chicago; Assistant Attending Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago. Forbes & Company, Chicago, 1916. Price, \$1.00.

This booklet of about 134 pages is from the pen of an enthusiastic pro on the question of the use of nitrous oxide analgesia in labor. The book is divided into three parts. Part 1, entitled "Painless Childbirth," is a rather interesting historical summary of various attempts to relieve



pain in labor. Part 2, headed "Eutocia," is really an appeal for better aseptic obstetrics, and a popular presentation of statistics upon the incidence of puerperal infections. Part 3, "Nitrous Oxide-Oxygen Analgesia in Obstetrics," is based upon a study of 104 cases delivered by this method at the Presbyterian Hospital, Chicago.

One wonders whether this booklet is intended for the lay or for the professional reader. The first two parts are prefaced by a page of "Definitions," and the style is distinctly popular. Then why are such technical terms as "Voorhees bag," "puitrin," etc., introduced unexplained in Part 3? This Part 3 would make a valuable contribution to a medical journal, but when its glittering results are printed in such a semi-popular booklet as the present one, it partakes too much of the nature of an advertisement for Presbyterian Hospital, Chicago.

The reviewer is daily becoming more convinced that the nitrous oxide-oxygen combination is the best means yet at our command for rendering childbirth painless. Dr. Davis presents evidence in support of this view. We rather doubt the wisdom of the form in which he has seen fit to present it.

J. T. S., Jr.

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**Physical Diagnosis.** By Richard C. Cabot, M. D., Assistant Professor of Medicine in Harvard University, etc. Sixth edition, revised and enlarged, with six plates, and 268 figures in the text. William Woodard Company, New York. Price, \$3.25.

In this edition Dr. Cabot has entirely rewritten the section on Diseases of the Heart. The classification represented is that described by the author in the *Jour. A. M. A.*, for Oct. 24, 1914, under the title of "The Four Common Types of Heart Disease." In this book five divisions are made. (1) Rheumatic, (2) Syphilitic, (3) Arteriosclerotic, (4) Nephritic, (5) Congenital Malformations. It is worth noting that this is one of the first standard text books to definitely group under the luetic etiology Aortitis with or without Aneurism and Aortic Regurgitation of Syphilitic type. Another new feature is the presentation of the general subject of Electrocardiograms. In this chapter the author presents a classification of the arrhythmias as revealed by phlebographic and electrocardiographic work. The results are stated without description of technique, which is correct for "the practitioner for whom the book is intended" is not likely to use these methods of examination. Dr. Cabot's characteristic nihilism crops out in his statement that percussion of the heart-borders is of little value.

The section on Diseases of the Lungs is stated to have been revised in accordance with the work of Dr. Frederick T. Lord presented in his work on Diseases of the Bronchi, Lungs and Pleura. The writer, in comparing this section with the 5th edition, is able to find but minor changes.

On the whole this edition is better than the preceding. The book is as good as any small book in English on general Physical Diagnosis. It still leaves something to be desired. One may express the hope that the author of the next book of this nature will omit the sections on laboratory methods of diagnosis. These methods are described inadequately and one had better consult the numerous good works on the subject.

H. C. K.

## ACKNOWLEDGMENTS

**Urgent Surgery.** By Felix Lejars, Professeur Agregé a la Faculté de Médecine de Paris; Chirurgien de l'Hôpital Saint-Antoine; Membre de la Société de Chirurgie. Translated from the Seventh French Edition by William S. Dickie, F. R. C. S., Surgeon North Riding Infirmary, Middlesborough, Consulting Surgeon Eston Hospital, and Ernest Ward, M. A., M. D., F. R. C. S. Third English impression, with 20 full-page plates and 1,086 illustrations. Vol. II. The Genito-Urinary Organs—The Rectum and Anus—The Strangulated Hernias—The Extremities. William Wood & Company, New York, 1916. Price, \$7.00 net per volume.

**Obstetrics. A Practical Text-book for Students and Practitioners.** By Edwin Bradford Cragin, A. B., A. M. (Hon.) M. D., F. A. C. S., Professor of Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University, New York. Assisted by George H. Ryder, A. B., M. D., Instructor in Gynecology, College of Physicians and Surgeons, Columbia University, New York, etc. Illustrated with 499 engravings and 13 plates. Lea & Febiger, Philadelphia and New York, 1916. Price, cloth, \$6.00 net.

**The Starvation Treatment of Diabetes.** With a Series of Graduated Diets as Used at the Massachusetts General Hospital. By Lewis Webb Hill, M. D., Children's Hospital, Boston, and Rena S. Eckman, Dietitian, Massachusetts General Hospital, Boston, with an introduction by Richard C. Cabot, M. D. Second edition. W. M. Leonard, Boston, 1915. Price, \$1.00.

**Reference Handbook of the Medical Sciences.** Embracing the entire range of Scientific and Practical Medicine and Allied Sciences. By various writers. Third edition, completely revised and rewritten. Edited by Thomas Lathrop Stedman, A. M., M. D. Complete in eight imperial quarto volumes. Volumes V, 967+6 double-column pages, illustrated by 489 engraved and 7 fullpage plates in black and colors. Wm. Wood & Co., New York. Price, \$7.00, cloth; \$8.00, leather; \$9.00, half Morocco.

## DIPHTHERIA CARRIERS

Cases of diphtheria occurring in six different schools in widely separated communities of California have been investigated by the state board of health, and the results are published by J. C. Geiger, Frank L. Kelly and Violet M. Bathgate, Berkeley, Calif. (*Journal A. M. A.*, Feb. 26, 1916). The statistics are compiled from examinations by three separate persons which check off each other and eliminate the personal equation. The cultures were taken from all contacts and all carriers were isolated. The taking of nose cultures as was done, as well as those from the throat, is especially mentioned as better insuring the detection of carriers. This is illustrated by the tables furnished, in which 72 per cent of the positive cultures were obtained from the nose and only 28 per cent from the throat alone. Another interesting observation is the total percentage of the positives, 32.8, the majority of which can be classed as diphtheria carriers. Another point of interest was brought out in a group composed of young adult students in a large university. In order to distinguish between the contacts and carriers without waiting for the end of the incubation period, the Schick test was used and proved inside of forty-eight hours that the whole group was immune. They were accordingly classed as carriers, and none of them developed the disease. Another example of the value of the Schick test was shown in another investigation in which several carriers developed diphtheria and in which the test was not used. The Schick test would have detected the nonimmunes and they could thus have been immunized in time to avoid the disease.



## RECENT PUBLICATIONS ADDED TO THE CLEVELAND MEDICAL LIBRARY

- Abderhalden, Emil.—Defensive Ferments of the Animal Organism Against Substances Out of Harmony with the Body, the Blood-Plasma and the Cells; Their Demonstration, and Their Diagnostic Significance for Testing the Functions of Different Organs. Third edition. Translated by J. O. Gavronsky and W. F. Lanchester. New York, Wm. Wood & Co., 1914.
- Volhard, F., and Th. Fahr.—Die Brightsche Nierenkrankheit, Klinik, Pathologie und Atlas. Berlin, J. Springer, 1914.
- Bayliss, William Maddock.—Principles of General Physiology. London, Longmans, Green & Co., 1915.
- Nicholson, Percival.—Blood Pressure in General Practice. Third edition. Philadelphia, 1915.
- Short, A. Rendle.—The Newer Physiology in Surgical and General Practice. Third edition. New York, Wm. Wood & Co., 1915.
- McKenzie, R. Tait.—Exercise in Education and Medicine. Second edition. Philadelphia, W. B. Saunders Co., 1915.
- Gant, Samuel Goodwin.—Diarrheal, Inflammatory, Obstructive, and Parasitic Diseases of the Gastro-Intestinal Tract. Philadelphia, W. B. Saunders Co., 1915.
- Smithies, Frank.—Cancer of the Stomach. A Clinical Study of 921 Operatively and Pathologically Demonstrated Cases. With a Chapter on Surgical Treatment of Gastric Cancer, by Albert J. Ochsner. W. B. Saunders Co., Philadelphia, 1916.
- Luciani, Professor Luigi.—Human Physiology. Translated by Frances Welby and Doctor M. Camis, with a Preface by J. N. Langley. Vols. 1, 2, 3, 1911, 1913 and 1915. London, Macmillan & Co.
- Smoke Abatement and Electrification of Railway Terminals in Chicago. Report of the Chicago Association of Commerce of Investigation on Smoke Abatement, etc. W. F. M. Goss, Chief Engineer, Chicago, 1915.
- Cannon, Walter B.—Bodily Changes in Pain, Hunger, Fear and Rage. An Account of Recent Researches Into the Function of Emotional Excitement. New York, D. Appleton & Co., 1915.
- Plimmer, R. H. A.—Practical Organic and Bio-Chemistry. London, Longmans, Green & Co., 1915.
- Parsons, J. Herbert.—An Introduction to the Study of Color Vision. New York, G. P. Putnam's Sons, 1915.
- Pembrey, M. S., and J. Ritchie.—Text-book of General Pathology. New York, Longmans, Green & Co., 1913.
- Benedict, Francis Gano.—A Study of Prolonged Fasting. Bulletin 203, Carnegie Institute of Washington, 1915.
- Huxley, Thomas H.—Lessons in Elementary Physiology. New York, Macmillan Co., 1915. 6th edition revised by Joseph Barcroft.
- Ritchie, William Thomas.—Auricular Flutter. Edinburgh, W. Green & Son, 1914.
- Transactions of the American Gynecological Society. Vol. 40, 1915. Philadelphia, 545 pp.
- Transactions of the American Urological Association, 14th Annual Meeting at Baltimore, Md., April 13, 14 and 15; 479 pp.
- Annual Report of the Department of Health of the City of New York for the Calendar Year, 1914.
- Annual Report of the Surgeon-General of the Public Health Service of the United States for the Fiscal Year, 1915.
- Board of Health of the State of New Jersey and Report of the Bureau of Vital Statistics, 38th Annual Report, 1914.
- The Harvey Lectures Delivered Under the Auspices of the Harvey Society of New York, 1914-1915. Series X. J. B. Lippincott Co., 339 pp.
- Bellevue and Allied Hospitals, City of New York. 13th Annual Report, January to December, 1914.

- Medical and Surgical Report of the Roosevelt Hospital, New York. Based on the work of the years 1910-1914, inclusive, 254 pp.
- Cornell University Medical Bulletin, Volume 5, Number 2. Studies from the Department of Physiology, including Contributions from The Russell Sage Institute of Pathology, October, 1915.
- Tanton, Jean.—Fractures—Fractures en General, Fractures des Membres. Nouveau Traite de Chirurgie, sous la direction de A. Le Dentu and Pierre Delbet. Vol. 4. J. B. Bailliere et Fils, Paris, 1915, 860 pp.
- Sebileau, Pierre, and Pierre Descomps.—Maladies des Organes Genitaux de L'Homme. Nouveau Traite de Chirurgie sous la direction de A. Le Dentu and Pierre Delbert. Vol. 32. J. B. Bailliere et Fils, Paris, 1916, 684 pp.
- Cragin, Edwin Bradford, and Geo. H. Ryder.—Obstetrics. A practical text-book for students and practitioners. Philadelphia, Lea & Febiger, 1916.
- Taylor, Howard Canning.—Cancer, its study and prevention. Philadelphia, Lea & Febiger, 1915.
- McDonagh, J. E. R.—The Biology and Treatment of Venereal Diseases and the Biology of Inflammation and Its Relation to Malignant Disease. Philadelphia, Lea & Febiger, 1916.
- Starling, Ernest H.—Principles of Human Physiology. Second edition. Philadelphia, Lea & Febiger, 1915.
- Wiggers, Carl J.—Modern Aspect of the Circulation in Health and Disease. Philadelphia, Lea & Febiger, 1915.
- Aaron, Charles D.—Diseases of the Digestive Organs with Special Reference to Their Diagnosis and Treatment. Philadelphia, Lea & Febiger, 1915.
- Schafer, Sir Edward.—An Introduction to the Study of the Endocrine Glands and Internal Secretions. Lane Medical Lectures, 1913. Stanford University, California, 1914.
- Brophy, Truman W.—Oral Surgery. A Treatise on the Diseases, Injuries and Malformations of the Mouth and Associated Parts. Philadelphia, P. Blakiston's Son & Co., 1915.
- Johnson, Alexander Bryan.—Operative Therapeutics. Five volumes. New York, D. Appleton & Co., 1915.
- Forcheimer, Frederick.—Therapeutics of Internal Diseases. Second edition, edited by Frank Billings. Five volumes. New York, D. Appleton & Co., 1915.
- Ljungdahl, M.—Untersuchungen ueber die Arteriosklerose des kleinen Kreislaufs. Wiesbaden, Bergmann, 1915.
- Stern, L.—Ueber den Mechanismus der Oxydationsgase in Tierorganismus. Jena, Fischer, 1914.

#### **Received Through *Cleveland Medical Journal***

- The Practical Medicine Series, Vol. 5. Pediatrics and Orthopedic Surgery, 1915; 223 pp.
- Ott, Isaac.—Fever, Its Thermotaxis and Metabolism. New York, P. B. Hoeber, 166 pp, 1914.
- Kerley, Chas. G.—What Every Mother Should Know About Her Infants and Young Children. New York, P. B. Hoeber, 1915, 107 pp.
- Jacoby, George W.—Child Training as an Exact Science. A Treatise Based upon the Principles of Modern Psychology, Normal and Abnormal. Funk & Wagnalls, New York, 1914, 384 pp.
- Kerley, Chas. G.—The Practice of Pediatrics. Philadelphia, W. B. Saunders Co., 1914, 878 pp.
- DeLee, Joseph B.—The Principles and Practice of Obstetrics. 2nd edition. Philadelphia, 1915, W. B. Saunders, 1087 pp.
- Schafer, Sir Edward.—An Introduction to the Study of the Endocrine Glands and Internal Secretions. Stanford University, 1914.



- Reference Handbook of the Medical Sciences Embracing the Entire Range of Scientific Medicine and Allied Science. 3rd edition, Vol. 5. Hea-Lif. Edited by Thomas L. Stedman. New York, W. Wood & Co., 1915, 923 pp.
- Oliver, Sir Thomas.—Lead Poisoning from the Industrial, Medical and Social Points of View. Lecture delivered at the Royal Institute of Public Health. New York, P. B. Hoeber, 1914.
- Dorland, W. A. Newman—The American Illustrated Dictionary. 8th edition, revised and enlarged. Philadelphia, W. B. Saunders Co., 1915, 1137 pp.
- Crile, G. W.—The Origin and Nature of the Emotions. Philadelphia, W. B. Saunders Co., 1915, 240 pp.
- The Medical Clinics of Chicago, Vol. 1, Numbers 1, 2, 3. Philadelphia, W. B. Saunders Co., 1915.
- Woodruff, Chas. E.—Medical Ethnology. New York, Rebman Co., 1915.

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### PASTEURIZATION

J. C. Geiger and F. L. Kelley, Berkeley, Calif. (*Journal A. M. A.*, Jan. 22, 1916), report a small epidemic of typhoid traced to a single dairy. A large number of persons partook of the infected milk both in the city of Berkeley and in the smaller one of Richmond, but there were only twelve cases in the latter town and none in the other. This comparative immunity was shown to be due to the pasteurization of the milk supplied in Berkeley and the absence of cases in the other town where the pasteurized milk was used. The absolute protection that pasteurization gave to the thousands of customers receiving the infected milk is an indisputable argument against the use of raw milk where it is impossible to secure adequate inspection at frequent intervals.

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### APPLES

Although the apple is easily the most important of the fruits of its class, there is little widespread information in regard to the chemical changes which attend its ripening. The starch content reaches a maximum in midsummer while the fruit is still on the trees, and then begins to decrease. Some varieties of apples are ready to eat when they are removed from the trees. The larger number, however, are expected to ripen to a considerable extent after that period. For this reason, the varieties which mature more slowly exhibit a superior keeping quality. When once the ripening process has been completed, the fruit tends to become soft, mushy or overripe, and usually at this or some preceding stage, organisms of decay gain entrance to the tissues, and the fruit rots. In the absence of infection with any germs of disease or decay, the fruit loses water and shrivels up into a withered dry mass. Changes of this character go on, no matter whether the fruit remains on the tree or is picked off. Growth ceases, and chemical changes ensue which result in the development of characteristic odor and flavor and later in the disintegration of the flesh of the fruit.

The object of the storage or preservation of fresh fruit so that it will be available beyond its natural "season" is really to slow up the ripening process and so to prolong its period as much as possible. That temperature has an important influence on the rate of ripening is a familiar experience. Beyond this little has been appreciated in regard to the change actually involved. It has even been believed that micro-organisms are in part responsible, though in the light of our modern knowledge of biochemical changes in plants it is more reasonable to ascribe an influence to the presence of "ripening enzymes."—*The Journal of the American Medical Association*.

## MEDICAL NEWS

**The Health Department's Attitude Towards Alcohol.**—On June 29, 1915, at the request of Dr. Goldwater, then the Commissioner of Health, New York, a committee of leading physicians, actuaries, educators, publicists and others interested in the alcohol question, met to advise with the officers of the Health Department as to the most effective method of preventing such disease as alcohol causes or to which it contributes.

The opinion expressed by the committee and the information in the hands of the Department of Health, as to the part played by alcohol as the cause of sickness and death, justified the entrance of the Department of Health into a field previously occupied chiefly by moralists rather than by physicians.

Just as the control of venereal disease is a technical medical matter rather than a question of individual or community morals, so the knowledge of the serious effects of the use of alcohol is to be spread by education. As a measure of personal health and public preparedness against preventable disease and disability, this question should be approached from the medical and social point of view and not from that of morality and religion.

Admitting that the drunkard is a social misfit, our interest is rather with those intemperate users of alcohol who do not become irresponsible or guilty of anti-social acts. Such individuals are almost always ignorant of the fact that alcohol decreases resistance to infectious diseases, such as tuberculosis and pneumonia. Alcohol is a depressant and not a stimulant; it drugs the brain and drops the capacity of the nervous system to obey the will. In this way, the use of alcohol becomes an important factor in industrial accidents. Entirely aside from its action as a contributory cause in infectious diseases and industrial accidents, the intemperate or continuous use of alcohol causes well-recognized degenerative diseases.

The Department of Health has no sympathy with and will take no part in legislative or police restrictions or attempts to limit personal liberty in the use of alcoholic beverages. The spread of accurate information among the people as to the effects of alcohol can be depended upon to accomplish more than laws restricting its manufacture or sale.

In the long run, compulsory prohibition will not prohibit until the public is ready to cease using alcohol when restrictive laws will be superfluous.

The prevention of disease is the most notable contribution of the present generation to civilization. The discontinuance of the use of alcohol will mark a greater advance in public health protection than anything since application of our knowledge of the bacterial origin of disease.—*Weekly Bulletin, Department of Health, City of New York.*

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**Sanitary Condition of Bottled Waters.**—The Bureau of Chemistry for several years has been investigating the sanitary conditions in the production and distribution of bottled mineral and table waters, which are offered for sale in interstate commerce and therefore subject to the Food and Drugs Act. It is recognized that the sale of bottled waters is



dependent largely upon the belief by the public in the purity of the product. The Bureau has recently conferred with a large number of sanitary experts and bacteriologists regarding a desirable standard for judging the sanitary character of bottled waters. As a result of the investigational work and the above mentioned conferences the Bureau believes that the tolerances established by the Public Health Service of the Treasury Department for waters served on interstate carriers is none too rigid for application to bottled waters sold in interstate commerce or imported from foreign countries. The Treasury Department standards are as follows:

1. The total number of bacteria developing on standard agar plates, incubated 24 hours at 37 deg. C., shall not exceed 100 per cubic centimeter; provided, that the estimate shall be made from not less than two plates, showing such numbers and distribution of colonies as to indicate that the estimate is reliable and accurate.

2. Not more than one out of five 10 cc. portions of any sample examined shall show (by the method of the Public Health Service) the presence of organisms of the bacillus coli group.

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**The American Orthopedic Association** announces the appointment of Doctor Mark H. Rogers, Boston, as editor of *The American Journal of Orthopedic Surgery*, the only periodical in the English language devoted to Orthopedics. This journal, which has now completed 13 volumes as a quarterly publication, will henceforth be issued monthly, the first number in the new form being that of January, 1916.

The office of publication has been transferred from Philadelphia to Ernest Gregory, 126 Massachusetts avenue, Boston. The subscription price is \$4.00 per year.

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**Health Insurance.**—The bill for health insurance drafted by the American Association for Labor Legislation in co-operation with the American Medical Association has been introduced into the Legislature by Senator Ogden L. Mills.

This bill provides that all manual workers and all others earning less than \$100 a month are to be insured for any sickness or accident not covered by workmen's compensation, and that the cost is to be borne, 20 per cent by the State and the remaining 80 per cent equally by employer and employee. Each insured workman is to receive as an insurance benefit, medical care, including surgical, nursing and hospital care, and a supply of the necessary medicines and appliances; a cash benefit for a maximum of twenty-six weeks of sickness in a year; and the family will receive a small funeral benefit on the death of the wage earner. Insurance is to be carried by mutual associations of employers and employees organized according to trade or locality, and supervised by the State.

As a public health measure, this is one of the most important bills which has come before the legislature for many years. The complete morbidity data which will be collected through the operation of such a system as well as the money value it places upon good health, will be a powerful factor in the prevention of sickness among the industrial population.—*Weekly Bulletin*.

# The Cleveland Medical Journal

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## THE NECESSITY FOR THE BETTER STUDY BY THE MEDICAL PROFESSION OF DISEASES IN THEIR RELATION TO OCCUPATION\*

By J. W. SCHERESCHEWSKY,  
U. S. Public Health Service, Washington.

I feel deeply both the pleasure and honor of addressing you tonight. Many successive milestones have been passed by our profession in their progress toward the goal of the prevention of unnecessary diseases and death. Your city has been among the foremost to apply in practical fashion the lessons learned from this progress. It is, therefore, with confidence that I bring to your attention the desirability of making further progress in a new sanitary field. By new, I do not mean that this field has but recently been discovered, but rather that our prophylactic activities in the past have been directed against other menaces to life and health.

Tonight, I hope to discuss with you the necessity for a better study by the medical profession of the relations of disease to occupation. While this country has been among the foremost in the general campaign directed against the unnecessary waste of life, we have lagged behind other countries in the study of the relation of occupation to disease. It is only during recent years that we have awakened to the necessity for studying the great question of influence of occupation upon the health of man. This is, perhaps, because in the past the mechanical side of industry has made such an appeal, as a people, to our creative instincts, that in our enthusiasm for the design and construction of automatic machinery of unparalleled ingenuity, our solicitude for efficiency in production, the urge for the multiplication a thousand fold of individual productive capacity, in our very mechanical exuberance we have lost sight of the man behind the machine. Yet, we are rapidly coming to the realization of the fact that no industry

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\*Read before the Academy of Medicine of Cleveland, February 18, 1916.



per se ought to have a deleterious influence upon individual health, that occupation in no industry should curtail the period of economic productivity.

In other words, we are at length beginning to recognize the true value of the individual to society at large; we are beginning to display the solicitude for the conservation of the health of workers, which the situation has long since merited.

The great European conflict now in progress places bitter emphasis upon the economic value of human life. The warring nations realize only too fully that it is not the gigantic cost in money and material which constitutes the toll exacted by the struggle, but the vast multitude of wasted lives and wrecked bodies. Human life, therefore, always held too cheaply in the past, has now been the subject of valuation, from an economic standpoint, to a level never reached before. Consequently the appeal to the medical profession, who must ever be the originators in human conservation measures, is stronger and more direct than ever before to extend the scope of such measures to cover all fields forming the environment of mankind.

Let us glance briefly at a few facts in connection with this great group of the population, viz., the wage earners, in the interest of whose health, constructive studies and measures are urgently needed. Roughly speaking, there are about 25,000,000 wage earners in this country, each of whom are incapacitated by diseases other than accidents, on the average of eight days a year. This amounts to a direct loss of working time of some 600,000 years annually, and a money loss of some \$360,000,000. In addition to this we must add a loss, not as yet estimated, due to premature physical decline or to reduction in productivity, the result of the continuous operation of industrial health hazards. Yet it is probable that at least 40 per cent of this sickness is preventable. Nor is this all! Our attention has repeatedly been directed in recent years to the following facts: While our growing mastery of the infectious diseases, our better application of the principles of preventive medicine has resulted in a steady reduction in the fatality rate for such diseases, together with an increase in the average duration of life, on the other hand, the success which has been crowning our efforts in this direction has partially been neutralized by the circumstance (brought to our attention with increasing frequency, in recent years) of an ap-

parent increase in the number of deaths from degenerative diseases. Not only is there an actual increase in the number of these deaths, but the curve of this percentage in the total mortality has an upward trend from year to year.

Thus, in the State of Ohio (I take these figures from Hayhurst's Report on Industrial Hazards and Occupational Diseases, issued by the Ohio State Board of Health, pp. 3-16), it appears that the death rate per 100,000, from circulatory and organic diseases, has increased from 155.95 and 108.26 in 1909 to 227.88 and 177.80, respectively, in 1912. Moreover, the rate of each of the intervening years has shown an increase over its predecessor.

In Ohio, in 1912, over one-sixth of all the deaths were due to circulatory diseases and one-eighth of all deaths were due to organic heart disease alone. The deaths from degenerative diseases have far outstripped tuberculosis in the State of Ohio. Moreover, 58 per cent occurred before 70 years of age, and 20 per cent before the 50th year.

A further analysis of the general mortality statistics of the registration area of the United States taken from this report shows that while, among the rural population, 26.5 per cent of all deaths were due to degenerative diseases, among those in trades and callings the percentage rises to 31. Besides this, in agricultural workers, 35.9 per cent of all deaths took place after 70 years of age, while among industrial workers, only 13.4 per cent died after passing the 7th decade.

Again, the percentage of deaths from preventable causes was 27.4 per cent in those in agricultural pursuits, while in those in trades and callings 43 per cent died from preventable causes, of which six-sevenths were diseases.

Inasmuch as the most conspicuous characteristic of modern civilization is its industrial development, the inference is justifiable that the environmental factors, incident to development in this direction, are largely responsible for the conditions just referred to.

In face, then, of the strongest economic reasons for the better conservation of human health and life (in contradiction to the principle previously announced that occupation in no industry should injure the health or shorten the period of productivity), we are confronted with the situation that engagement in a trade or



calling markedly increases the liability to early incapacitation or death.

When we add to this the fact that probably one-third of the medical patients belong to this group of industrial workers, the urgency for the study of the following question by the medical profession becomes at once apparent. This question is the general relation of occupation to disease. Ordinarily, when one mentions occupational diseases—lead poisoning, telegrapher's cramp, "phossy" jaw and similar morbid conditions immediately arise to the mind. The problem stated above has a far wider significance than this; it means the deleterious reactions produced by the total industrial environment upon the body, the combined effects of long hours, inadequate illumination, air vitiated by gases and fumes, of fatigue, monotony, speeding up, undue exposure to heat, cold, dampness, noise, infections; in a word, all the health hazards apparently inherent to a life of toil, which it is our duty to minimize or at least to mitigate.

Now, while it is self-evident that the continuance of the health hazards just enumerated must, in the aggregate, injure the body, yet clinical evidence of these insidious injuries is strikingly sparse, because of the lack of any systematic attempts at its collection. Indeed, nearly all the evidence we have at hand upon the detriment sustained by the operation of industrial health hazards rests upon the results of laboratory experiments. Yet, when it comes to the question of establishing hygienic standards for industries, of minimizing or removing the hazards to health engendered by industrial processes or environment, the great need of clinical evidence, based upon the study and correlation of diseases to occupation, becomes apparent.

Yet, until very recently, the existence of this great public health problem has been all but ignored by the bulk of the medical profession in this country. The relation of occupation to disease has been regarded as a specialty, something with which neither the general practitioner nor the specialist in other fields is closely concerned. We lose sight of the fact that industrial workers form, by far, the largest class of medical patients. Casual inspection of the medical records of the vast majority of our modern hospitals show that with a wealth of clinical material at hand, with but rare exceptions, scant attention has been paid, for the most part, to the relation of industrial health hazards and

of occupational diseases to the morbid history of hospital patients. Even the occupation of the patient is so imperfectly ascertained and recorded that the data on this point in most hospitals is so vague as to be practically worthless.

In the curricula, too, of our medical schools the influence of occupation upon health has been sadly neglected. It is significant that, while in other countries text-books on occupational diseases have made their appearance, from time to time, the first American text-book dealing exclusively with this subject made its appearance only in 1914. Inasmuch as the chief source of our information in things hygienic is the medical profession, the necessity for the education of the profession becomes evident at once.

The first step in this education must begin in our hospitals, as these are the chief sources of our clinical material. One of the first things to be done in the utilization of these hospitals as centers for the collection of data in regard to the relation of occupation to disease, is the adoption of a system of history-taking which will at least pay as much attention to the occupational as is paid to the personal and family histories. Above all, it is necessary that the previous and present occupations of the patient and the years spent in each be accurately recorded. Such information will not be reliable unless (a) the general nature of the industry, e. g., the iron industry; (b) the location of the working place; (c) the department; (d) the process, and (e) the trade duties, be specified. The usual names by which the occupations of hospital patients are recorded, such as laborer, mill worker, shoe worker, rubber worker and the like are meaningless. For instance, "a laborer" in a steel mill may have been exposed to any one of half a dozen different industrial hazards, a shoe worker may have performed any one of 60 or 70 different operations. Besides ascertaining the exact occupation of the patient, due note should be made of the principal industrial health hazards to which he has been exposed by reason of his occupation. Knowledge of the trade processes involved in various occupations, taken in conjunction with the exact occupational designation alluded to above, will at once give the key to the principal industrial hazards to which the worker has been exposed. If, for instance, a woman gives her occupation as a "looper" in a knitting mill, we know at once that she has been exposed to the hazards of monotony, piece work, inactivity, sedentary occupation and eye strain; or if a man



gives his occupation as "heat scrapper" in a steel mill, we are at once informed that the particular hazards in this case have been exposure to intense heat, intense light, severe muscular exertion, combined with long hours.

In taking such histories the work will be materially facilitated by a glossary of the trade designations of the workers engaged in important callings, a short description of their duties, and the inherent hazards. The value of the data collected in this manner will be greatly enhanced if the clinical service of the hospital were combined with a social service, as is the case in some of our large hospitals, such as the Massachusetts General Hospital in Boston. Through this service the conditions obtaining in places of employment and the homes of workers could be readily verified whenever necessary.

It seems obvious that were only a relatively small number of hospitals to study the relation of diseases to occupation in the manner above outlined, we should ere long accumulate data of inestimable value, on which constructive recommendations might be based and standards of industrial hygiene be formulated.

In addition to the utilization of hospitals as centers for the collection of data, steps should be taken for the fuller consideration of this question in the curricula of medical schools and in clinics for the instruction of medical students. The present campaign for industrial safety, and the very general enactment of laws for the compensation of workers for accidents, has created an increasing demand for physicians qualified to supervise the health of plant personnels. Proper courses of instruction in medical schools in regard to the pathology of occupations will not only prepare medical graduates better for the practice of their profession, but will result in the graduation of internes of greater value to hospitals collecting data on the relation of diseases to occupation, and of physicians who desire entering the employ of manufacturing corporations.

That the need is urgent for the studies which I have outlined above seems to me not to require further discussion. It is my earnest hope that the medical profession in your city will look at the question in such light. I believe that we ought to go further than this and establish hospitals and clinics in our large centers built exclusively for the study and treatment of occupational diseases. I need hardly remind you that such a hospital

and clinic exists in Milan, Italy. We must earnestly hope that this example will be followed in this country in the near future.

Economists assure us that compulsory sickness insurance which has existed for many years in Europe will soon be a fact in America, as well. When this day arrives a great impetus will be given to the study of the hygiene of industries—that most powerful of impetuses, a financial incentive—for the cost of insurance will, of course, depend upon the prevalence of disease. Let us, therefore, prepare ourselves against the advent of this day by improving by every means at our command our knowledge of the diseases which affect a group of our fellow men of one-fourth our number, to the end that we may better conserve their lives in health and usefulness to themselves and to society.

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**Health Insurance For Workers Advocated.**—That health insurance legislation is near at hand and that it will open out a vast educational movement for "Health First" is the opinion of Dr. John B. Andrews, secretary of the American Association for Labor Legislation.

Dr. Andrews, whose organization is responsible for the drafting and introduction of health insurance bills this year into the legislatures of New York, Massachusetts and New Jersey, was speaking at the conference on health insurance held in the Gibson Hotel, Cincinnati, under the auspices of the Council of Social Agencies, the Chamber of Commerce and the Federation of Churches on April 4th.

"The need for health insurance with its medical care and cash benefits, is admitted by all open-minded people who are familiar with the conditions of the workers of this state," said Dr. Andrews. "Here in Cincinnati Dr. Robinson of the U. S. Public Health Service, found that 1.1 per cent of 20,000 workers in various industries were suffering from tuberculosis. This is an unusually good showing. In Cleveland, the largest city in the state, an investigation of three working class districts disclosed that the tuberculosis rate per thousand in 1912 was 35 for the worst district, 23 for the average, and 5 for the best. In 26 German cities under the influence of health insurance the death rate from tuberculosis has been reduced from 34.6 per ten thousand in 1880 to 17.9 per ten thousand in 1909. Recent studies in American cities have revealed that medical attendance is a luxury indulged in only by those acutely ill, and that 40 per cent of those who became ill were not attended by a physician. Health insurance would meet this need, and would give moderate financial assistance to the sick wage-earner who is often forced to seek charitable assistance.

The model bill for health insurance, drafted by the American Association for Labor Legislation, requires insurance of all manual workers, and of all other employees receiving less than \$1,200 a year, with a few exceptions. Insurance funds are to be accumulated in local and trade mutual associations by assessing employers and employees each for two-fifths of the burden and the state for the other fifth. The benefits include medical, surgical, and nursing attention, medicines and accessories, hospital care, a funeral benefit, and maternity care for insured women, and also a cash benefit equivalent to two-thirds of wages for twenty-six weeks.—

AMERICAN ASSOCIATION FOR LABOR LEGISLATION.



## EYE-FUNCTION AND LIGHT

By P. W. COBB, M. D., Cleveland

It is readily to be seen that the problems relating to light and vision naturally divide themselves into two groups. They may be of interest on account of demonstrable anatomical lesions as a result of the incidence of radiation upon the tissues; or on account of disturbances set up originally in the sensory apparatus of the eye by adverse conditions of stimulation. It is the latter phase of the general question which is the subject of the present paper, and to make clear exactly what is meant it may be well to mention one or two facts of physiological optics.

One of these is the fact of adaptation. The least visible stimulus on going directly from a bright environment into a dark room has been shown to be from one thousand to several thousand times as great as the least visible after an hour's stay in the dark. The result of the sudden admission of much light into the eye in this dark-adapted condition is a blinding dazzle and pain, which rapidly subside; and in the course of perhaps twenty minutes the eye regains its former light-adapted state.

Contrast is also of interest here. It is a notable fact that in looking into the interior of a house from out-of-doors it is difficult or impossible to distinguish the objects within, while in the opposite case, looking out of a small window from the interior, such difficulty is not ordinarily met. It may, however, be experimentally demonstrated, as will be shown further on; and it is to be pointed out here that vision of a small bright field in relatively dark and extensive surroundings is accompanied by a vague discomfort, which for the want of a better word we will call *glare*, rather than by any material difficulty in the actual resolving of form—very much as in the case of the dark-adapted eye flooded with light. Indeed the two cases might without constraint be classed respectively as simultaneous and successive contrast.

A third point is the application to vision of Weber's law. This states (for all the senses) that two stimuli, to be just appreciably different, must be different in physical magnitude by an amount which for any given sense and mode of experimentation is a constant fraction of the absolute magnitude, irrespective of what the latter may be. That is to say that the two stimuli in question must bear a constant ratio to each other. As above

stated, the law is perhaps somewhat amplified over its original form. Its applicability to vision has been verified for a wide stimulus range, and a rough exemplification of it is in the fact that the objects in a room look the same whatever the absolute intensity of illumination may be. Any two objects reflect equal fractions of the light falling upon them, and hence always send light to the eye in the same ratio, and in this concrete case the law will also be found to hold for a wide range, breaking down most evidently at very low illuminations.

In view of the foregoing a few remarks may be made by way of orientation in the problem in question:

In order that they may be seen, objects or characters must present differences in brightness from that of the ground upon which they are to be seen, and these differences (contrasts) are quantitatively effective for seeing not *as* differences but rather as ratios. The eye must also be adapted to a certain range of brightness represented by the general brightness of the object and its ground. It is to be noted here that the retina is capable of local adaptation, shown by the fact of after-images, as well as of the state of general adaptation mentioned above, and that as a consequence extreme contrasts in the field of vision will, as the eye wanders over the field, continually cause states of maladaptation locally in various parts of the retina, in addition to the unfavorable circumstance of a high grade of simultaneous contrast.

It is not very far, then, from the established facts of physiological optics to the conclusion that unfavorable lighting conditions are those which present extreme contrasts. In general, experience in the matter of light installation has pointed very definitely to this view.

How is the relative merit of any light-distribution to be appraised? The most obvious criterion is the size of the smallest detail correctly recognizable under the conditions to be investigated, the determination of visual acuity; a refined procedure similar to the ophthalmologist's practice of "taking the vision" of a patient. A second criterion is the brightness-difference threshold—the least difference in brightness of two juxtaposed areas of the visual field that can be recognized. These two criteria have been investigated under certain fairly well specified distributions of light incident upon the eye.

The first set of data of any degree of completeness that we have is that of Depène, who used numerals as the test objects



and investigated the limit of vision with various illuminations upon them; the eye being under the influence of a second light, independently controllable, of various intensities and at various angles with the line of vision.

His conclusions can be stated briefly: a reduction in visual acuity is found to take place when light from a source at an angle with the line of vision is allowed to fall into the eye, and this reduction is greater—

- (1) the smaller the illumination of the test object;
- (2) the smaller the angle of incidence of the second (glaring) light;
- (3) the greater the glare ("Blendung" is the word used, apparently meaning the intensity of the second light);
- (4) the greater the retinal area illuminated by the second light.

However, he notes by way of exception to these that with illumination upon the test object sufficient to give vision a value of 1.25 or more an increase is found in place of a decrease, when the conditions as enumerated are moderate in degree.

And further, from this data it is to be inferred that unless the illumination upon the eye is greater than that upon the test object and the angle made by the disturbing light less than  $10^{\circ}$  with the visual line, no diminution in the power of vision takes place. Such an extreme condition is not conceivable in illuminating practice except as an obvious abomination.

The speaker has made similar investigation, replacing the disturbing source of light by a uniformly bright background for the test object large enough to fill almost the entire visual field; the test object and surroundings being independently controllable as to brightness. Expressed in a similar way the results agreed with the above. Unless the surroundings were brighter than the test object the result was as good as that obtained in viewing the test object in dark surroundings.\* And to Depène's exception there was an approximate parallel, for surroundings of bright-

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\*If one imagine a uniform sky, with sun absent, the illumination from it upon a patch of snow on a plain would make the snow exactly as bright as the sky—supposing the snow to reflect diffusely *all* the light that fell upon it. Again, imagine such a white surface placed in the sky. Obviously it would have to have an exactly equal illumination upon it to appear as bright as the sky. If this be the test object, the sky, its surroundings and the snow patch on the ground, the observer's eye, we will see that the conditions described in the above remark (surroundings brighter than the test object) mean that the eye is receiving a greater illumination than the test object.

ness equal to or less than that of the test object gave a slight increase over the result obtained with dark surroundings. This was not large, amounting on the average to not over 3 per cent.

The speaker has investigated a similar problem, where instead of visual acuity the discrimination of brightness-difference was used as the criterion. The least perceptible difference in brightness between the two halves of a small field is, according to Weber's law, a constant fraction of the brightness of the field. However, this fraction is found under certain circumstances to change with change in the brightness of the surroundings about as follows:

With surroundings in excess of the field brightness the fraction increases promptly and progressively to a very high value, while in the opposite case, where the surroundings are relatively dark, there is also an increase, but this is very limited in extent. A definite and apparently limited optimal region was found at the point of equality.

The results of all this work may practically be summed up in a few words. On a field that is contrast-darkened visual discrimination is low. On a field seen in the midst of dark or relatively dark surroundings it is something short of optimal, while the optimum is to be found where field and surroundings are not far from equal in brightness.

We must remember that the above statement applies only to certain purely sensory criteria, and does not include the factor of ocular discomfort experienced at once or at length by the observer; nor does it apply to the question of eye-strain or the more general fag which may be the result of prolonged ocular effort under certain conditions. The typical lighting-conditions which have come under especial condemnation in these respects, as the result of the general experience of those who have given their attention to the practical problems of lighting, may profitably be compared with the experimental results described above to see how far the latter may be drawn into the explanation of the practical results.

One of these practical conditions is that of *local illumination*, where a light-source is placed rather close to the work of the individual and the general illumination of the room left to take care of itself. The result is that the general illumination



is comparatively feeble, the work well illuminated and the greater part of the worker's visual field relatively dark. We have seen that under corresponding experimental conditions the sensory capacity of the eye is somewhat augmented by a certain amount of light coming to the eye from the outlying parts of the visual field. The advantage, as measured by the sensory function of the eye, is not, however, comparable to the increased comfort and to the fact of the ultimate disappearance of complaints which result from an increase of the general illumination and the making of the local illumination auxiliary to this.

In contrast to this condition stand cases of general illumination in which excessively bright areas (in extreme cases naked lamp-filaments) appear in the worker's visual field. In such cases it is hardly possible, as we have already intimated, that the illumination upon the eye shall be in excess of that upon the work, as has been experimentally shown to be the condition of sensory depression. Yet when (as in some trades) the work consists of dark colored objects an equivalent condition may result. Otherwise the situation has been much alleviated by such expedients as frosted lamps or diffusing glassware—which have the result of spreading the direct light from the sources out over a larger area of the retina, which, according to one of the experimental conclusions which we have mentioned, would tend to reduce the sensory capacity of the eye rather than to increase it.

We see, then, that the conditions which are practically considered disadvantageous to vision do not correspond to those in which a large sensory depression has been found by experiment. This makes it appear that an experimental criterion of the merits of any arrangement of light should not primarily involve a threshold or other primarily sensory determination. Indeed, we may say with reason that the simple inability of the eye to appreciate a stimulus may only be a cause of discomfort or fatigue when that inability is taken as a signal for greater or repeated efforts of the eye to adjust itself to the work in hand. And these efforts must be closely related to the motor functions of the eye, to the movements of the pupils, of accommodation, or to the activity of the extrinsic muscles in determining accurate fixation.

Again, there is very little actual work, clerical or industrial, which is carried out at anything like threshold values of stimulus.

The threshold may be defined as the physical value of the stimulus, expressed in suitable terms, at which from being ineffective it becomes effective. But since that value is found to be more or less indefinite and fluctuating, it is, in experimental work, often taken as the value of the stimulus at which it is effective in fifty per cent of a large number of cases—or a point inferably equivalent to this. The range (for vision of detail) between the largest stimulus which is practically never effective and the smallest practically always effective—the region from 0+ to 100—per cent, effectiveness—is represented by perhaps 10 per cent, difference in the dimensions of the stimulus object. If, however, the stimulus is about double its threshold size, a 10 per cent difference has little or nothing to do with its effectiveness, for at the lesser size it is already 100 per cent effective.

It would seem reasonable, from this, to suppose that conditions which so depress the sensory capacity of the eye that the threshold is raised 10 per cent would not in any corresponding degree be difficult *on that account*, when the work it has to do involves stimuli far above the threshold as in the practical case\*

\*The conditions in mind here are the most general ones referring especially to clerical work. Work on dark or black fabrics may, for example, approach threshold values. In a printing office a "shadowless" system of illumination may bring the typesetter's work near the threshold point; while such a system might be ideal in a situation where shadows are a drawback, as in a drafting room.

All generalizations are dangerous. The character of the work is of the highest importance in the illumination problem, and this discussion restricts itself to the one kind except where expressly stated.

It is quite possible that any condition which ultimately induces undue fatigue must initially, in some way, show increased labor thrown upon the mechanism of adjustment of the eyes. A sufficiently reduced sensory function, if the eye is whipped up to meet it, might be adequate to explain fatigue. When such a modification of the sensory function is not demonstrable for the conditions of the work with a test-object comparable to the work itself, it can neither be used to explain eye-strain nor as an indication that such conditions will prove conducive to the same under prolonged exertion.\* Rather should one look for evidence

\*It is not contended here that sensory depression as shown by an increased threshold may not be the result of fatigue, but rather that the investigation of the motor functions of the eye furnishes at once a promising field in which to look for an explanation of it and a possibility of a method for the physiological appraisal of lighting conditions.

of some more direct interference with the motor processes of



the eye—not explicable perhaps except as reflexes—but directly demonstrable in the examination of the motor processes of vision. Such disturbances should presumably be evident in the time-relations of these processes, and should appear at once under the conditions without waiting for the advent of fatigue.

Nela Research Laboratory,  
National Lamp Works of General Electric Company,  
Nela Park, Cleveland, Ohio.

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**The Campaign Against Venereal Diseases.**—The youngest of the active crusades against prevalent preventable diseases is daily attracting greater attention and assuming proportions which, in the opinion of many sanitarians, will shortly be comparable to the great anti-tuberculosis movement.

Quoting from *The Hospital*, far-away New Zealand has adopted a procedure which takes a long step toward the control of types of persons who should be prevented from spreading their infection:

"A bold step forward in social legislation has just been taken in New Zealand, the practical working of which will be watched with great interest by reformers and hygienists all over the civilized world. An act has been passed known as the 'Prisoners' Detention Act' dealing with all inmates of prisons who are certified to be suffering from venereal diseases. The Governor has power to declare any hospital or part of a hospital, or any part of a prison or gaol, to be 'prison hospital,' and to detain there on a magistrate's order any infected prisoner. There is a clause empowering the authorities, if necessary, to detain such a prisoner for a longer period than the sentence imposed for his offense; that is, until a cure of his disease has been effected. The procedure is to be that any prisoner found to have venereal disease will be brought before a magistrate in Chambers, with a right of appeal to a judge of the Supreme Court in Chambers. This avoids publicity, which it is no part of the object of the law to inflict. The object aimed at is the stamping out of venereal disease, and although this legislation touches the fringe only of the evil, still it is a step in the direction of controlling these preventable scourges of our people. It is noteworthy that in ultra-democratic New Zealand a law has been passed which would certainly arouse the fiercest opposition in this country among those to whom the 'liberty of the subject' is of more importance than the well-being of the community."

In this connection it may be noted that the Superintendent of the New York Municipal Lodging House, acting under Section 887 of the Code of Criminal Procedure, has recently caused the conviction for vagrancy and sentence to the workhouse for thirty days of an inmate of the lodging house, found to be in the infectious stage of gonorrhoea, who refused to follow treatment advised by a medical examiner.

It would appear that this procedure might, with advantage, be applied generally with patients of this type.—*Weekly Bulletin*, N. Y. City Dept. of Health.

# THE RESULT OF CLOSING THE SEGREGATED VICE DISTRICT UPON THE PUBLIC HEALTH OF CLEVELAND

By A. R. WARNER, M. D.  
Superintendent of Lakeside Hospital.

In order to determine as accurately as possible the influence of the closing up of the segregated district of Cleveland upon the public health of the community, particularly in regard to the infections with syphilis, the following tables and comparisons were assembled.

It has been for some time the custom in the Lakeside Dispensary to secure, whenever possible, from each patient having syphilis a statement of the date infected, the type of person from whom the disease was contracted (that is, whether from a prostitute, street walker, friend, etc.); also where infected (in a public house of prostitution, assignation house, rooming house, etc); also whether the patient was drunk or sober when the disease was contracted. It is not possible to induce all patients to give this data fully and freely, but many will give it.

Before the closing of the segregated district, for the pamphlet of the Federated Churches, entitled "Suppressing Prostitution in Cleveland," there was collected from the dispensary records a series of 112 cases reporting fully the source of their disease. The individual reports of each of the 112 cases were carefully compared and no effort was made to include cases not giving full and satisfactory details. The object of this table was simply to determine accurately the percentage of infections from the various sources. The report follows:

"One hundred and twelve cases of syphilis in men, acquired in Cleveland within the past eight months, have come to the Lakeside Dispensary for treatment. Women, old infections, and infections acquired outside of Cleveland are not included in these figures."

Sources	No. Cases	Percentage
Segregated District .....	45	40.2
Street Walkers .....	29	25.9
Clandestine Prostitution .....	10	8.9
Accidental .....	14	12.4
"Friends" .....	11	9.8
Marital .....	3	2.6
	112	99.8



The above list included only the infections acquired in Cleveland during a period of eight months by men who gave the full data. In addition to this list there must have been more than a few patients treated in the dispensary for syphilis acquired in this period, who either did not contract the disease in Cleveland or who did not give a full report of the source.

To compare with the above table the individual records given by men infected in Cleveland in the eight months period between April 1, 1915, and January 1, 1916, were collected. In addition all cases of fresh infection for the same period treated in the dispensary were also collected. In order to include absolutely all the infections contracted before January 1st the records were not searched until late in February. A change in record keeping made it much easier to locate the cases not giving full information as to source in this series than for the first series. The individual sheets giving the data as to source were always kept apart from the routing records and readily available. There were only 18 full records of infections acquired in these eight months, the same period of time of the first series.

Source	No. Cases	Percentage
Street Walker .....	6	33.3
Friend .....	4	22.2
Unknown or accidental .....	6	33.3
Clandestine Prostitution .....	2	11.1
	<hr/>	<hr/>
	18	99.9

In addition the records showed that 35 other cases of the disease in men acquired in this period were treated. These included out-of-town cases (5) and cases not giving full data, such as were excluded from the former series. The attendance at the dispensary increased 7,052 visits in 1915, indicating that the number of patients contributing toward the last series was greater than that contributing to the first. Therefore, a comparison of the eight months preceding the closing of the segregated district and the eight months following this closing as to the amount of syphilis treated in Lakeside Dispensary may properly compare the syphilitic infections in Cleveland.

In eight months BEFORE the closing of the segregated district	In eight months AFTER the closing of the segregated district
Listed cases .....112	Listed cases ..... 18
Unlisted cases, ..(?)	Unlisted cases ..... 31
<hr/>	<hr/>
Total .....112 plus (?)	53

Although Lakeside Dispensary is situated near the old segregated district and undoubtedly is selected by those living near this district, its attendance comes from all parts of the city, the Newburg district furnishing the greatest number of patients. The addresses of those in the first series of 112 are as scattered as those in the second series of 18. The addresses of the 35 unlisted cases are equally scattered and 5 of these were from outside the city. It may, therefore, be assumed that this comparison is a fairly accurate picture of the public health as respects syphilis, *before* and *after* the closing of the segregated district. With the vice district in operation the comparative figure is 112 plus a considerable more. Without the district the total figure is only 53. It is difficult to realize the saving in human life and suffering that these figures indicate. Less than half the new infections mean less than half the suffering from long standing and latent disease and less than half the infected wives and children.

From the standpoint of public health, the closing of Cleveland's vice district was certainly wise.

#### VENTILATION

Recent investigations on ventilation indicate that the problem of heat diffusion is more important for comfort and general good feeling than the question of perfect chemical purity of the air. Even though the air in a room is free from chemical and biologic impurities, and yet is quite still, one becomes uncomfortable if the temperature remains equable. Movement of the air by a fan, without change in the temperature, lessens the discomfort, stimulates a person to mental activity, and produces a better feeling. The introduction of cool fresh air from without is stimulating not so much because of its purity as because it leads to dissipation of heat which has been accumulating in the body, gradually producing an unbearable sense of discomfort. Human nature has in recent years endeavored by every possible means to make the temperature in the immediate neighborhood as invariable as possible and to keep it constant; but the effect of such a state of affairs is to lessen initiative, dampen energy and hamper the power of accomplishment. Cooler air is uncomfortable for the moment, but the reaction that ensues bring with it a distinct sense of well being.—*The Journal of the American Medical Association.*



## A CASE OF NICOTIN POISONING

By HAROLD FEIL, M. D.

Demonstrator of Medicine, Western Reserve University, Cleveland, Ohio

Poisoning from drinking solutions of nicotin or infusions of tobacco are infrequent enough to make the following report worthy of note:

Miss —, aged 52, drank from a bottle containing an infusion of tobacco, used as an insecticide. She had been in the habit of taking a dose of cascara every morning. The cascara bottle and the container of the tobacco infusion were the same size and the contents were about the same shade of brown. The two bottles were on the same shelf and in her haste the patient drank from the tobacco by mistake. She immediately recognized her error and expectorated all that she could. "Pain in her bowels" was complained of. The patient attempted to swallow milk, but was unable to do so. General convulsions were observed, followed by relaxation, and death in about twenty minutes. The patient was not seen before exitus. This case emphasizes the danger of the general sale of solutions of nicotin, and the need of insisting on a more prominent label. The label on the bottle containing the preparation taken in this instance, while marked "Poison" in fairly large black type, should have been marked in a more impressive manner, perhaps in red letters.

A specimen of the solution was given to Doctor Sollmann. His report follows:

"According to the determination of Doctor Hanzlik, the solution contains about 12 per cent of nicotin. I hope that you will publish a note on your observations emphasizing incidentally the danger of the promiscuous sale of such preparations."

Vaughn<sup>1</sup> cites cases of death from (1) excessive smoking; (2) use of too much snuff; (3) external application of leaves to wounds; (4) use of infusions as rectal irrigations in the treatment of constipation and pin worms.

"Nicotin is a specific in its action upon the preganglionic synapses of the autonomic system, at first mildly stimulating, but later producing a profound and prolonged paralysis. Cardiac musculature is at first strongly stimulated, then later depressed. Death is produced through paralysis of the respiratory muscles and of the central nervous system."<sup>2</sup>

<sup>1</sup>Vaughn: *Forcheimers Therapeutics of Internal Diseases*, Vol. 1, page 761.

<sup>2</sup>Greene: *Handbook of Pharmacology*, 1914, page 137.

Nicotin is absorbed through the mucous membrane of the mouth, so that if treatment is to be of any avail it must be rendered immediately. Emetics, gastric lavage with coffee or tea, strychnine or atropine hypodermically, artificial respiration of cardiac stimulation should be given.

Fantus,<sup>3</sup> in using Fuller's earth as an antidote for nicotin poisoning, found that if administered with the nicotin, death, in rabbits, could be prevented. If the antidote is given five minutes after the administration of the poison life could not be saved.

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<sup>3</sup>Fantus: *Journal A. M. A.*, 1915, *LXIV*, page 1938.

**The Constitution as a Cloak.**—"New York City's ordinance regulating the sale of 'patent medicines' went into effect the first of this year. It requires that the names (not quantities) of all patent ingredients in 'patent medicines' shall be either printed on the label or given, in confidence, to the Department of Health. While many reputable wholesale druggists and dealers in 'patent medicines' are complying with the law, the 'patent medicine' exploiters generally are fighting it. We understand," says *The Journal of the American Medical Association*, "that applications have been made for a temporary injunction against the enforcement of the ordinance by at least two New York drug concerns. The Proprietary Association—the 'patent medicine' combine—is, of course, behind the action of these individual concerns. The grounds on which the 'patent medicine' interests are attacking the ordinance is that it is unconstitutional! The argument is a pretty one. 'A federal law, which has been in effect nine years, requires manufacturers of 'patent medicines' to print on the label not only the names but also the quantities of certain specified ingredients—and nobody has ever suggested that this was unconstitutional. The principle may be illustrated thus: If a man puts up a headache powder composed of acetanilid, sodium bicarbonate and caffeine he has, under the federal law, to declare the presence and quantity of acetanilid—which he does without a whimper. When, however, he is asked to declare the presence—not amount—of caffeine and baking soda, he appeals to the Constitution of the United States for protection. Or again: If a man wishes to furnish suffering women in dry territories with a 'Tonic' consisting of alcohol and the extractives from a few innocuous and long discarded herbs, he does not consider that his 'property' has been taken from him 'without due process of law' because it is necessary to declare the presence and amount of alcohol; but should he have to give the names of the weeds he uses for making his tonic he immediately cries to high heaven that the Fourteenth Amendment of the Constitution of the United States has been violated. It is a curious fact that whenever a particularly profitable fraud is about to be restricted by legal enactment, the cry at once arises: Un-American! Unconstitutional!"



## PUBLIC HEALTH NEWS

From Bureau of Health Education, Division of Public Health.

R. H. BISHOP, JR., Commissioner.

J. D. HALLIDAY, Chief of Bureau.

The city's first serologist has just been appointed to the staff of the Health Department. Dr. R. G. Perkins, Chief of Bureau of Laboratories, announces that this new phase of the diagnosis work is expected to be under way by the middle of April, at the latest, under the immediate direction of Dr. John G. Frey, graduated at Western Reserve Medical School in 1914, and since that time in hospital and laboratory work in the special field of serology.

Cleveland is the fifth city to have a city serologist, and in preparation for his work here Dr. Frey has just made a three weeks' tour of the city and state laboratories in the East, which are doing this type of work. He will take up the work here in thorough touch with the latest steps in his special field, and with a laboratory fully equipped.

It is the intention of the Bureau to begin with the Wassermann test for syphilis, now universally recognized as of very great value in diagnosis. This diagnosis will be offered free to all physicians on exactly the same terms as the present diagnosis in diphtheria, typhoid, tuberculosis and ophthalmia.

Outfits will be obtainable at the regular stations and substations of the Bureau, and the specimens will be collected daily. The blood will, however, be received in better condition if the tube is brought at once to the laboratory where it can be put on ice until the test is made.

No tests will be made without adequate clinical history on the blanks sent for that purpose, but the information will be held strictly confidential, as has been successfully done for years in other cities. Tests will be made on certain days, and the results mailed to the physician. No results will be telephoned, lest the results reach the wrong person.

It is the intention of the Bureau to develop as soon as possible the complement fixation tests for gonorrhea and for tuberculosis, and when these are available the profession will be notified.

\* \* \*

City Chemist W. S. White is vigorously making headway in a complete, continuous inspection of all stores and places in Cleveland where food products are delivered, sold, stored, packed or manufactured. The inspection, which was started last month,

begins at the high grade packers and manufacturers and runs down the line to the delivery boy and the delivery basket, right into the hands of the consumer.

Wholesale groceries and food manufacturing plants were first inspected. This, however, was not a new procedure for these companies. Generally speaking, conditions are reported to be excellent, and the average conditions under which food is manufactured in Cleveland are better than in the average Cleveland kitchen.

Extract plants also average well. This probably is the result of the past two years' inspection. There are, however, still a lot of so-called imitation or compound extracts made and sold in Cleveland that are of little or no value. In the last month some 500 bottles have been seized, some of which contain no flavor at all.

The department is now engaged in complete inspection of all retail grocery stores. Scores are kept on the stores, and those which fall below 70 will be inspected continuously until they are brought up to grade. All old, adulterated and spoiled foods are either confiscated or ordered removed.

\* \* \*

The department now faces the difficult task of convincing the public that rabies is not solely a disease of summer, but is a winter health problem which has by now assumed alarming proportions. With 145 persons bitten by dogs since the first of the year, 17 of whom developed rabies, and with no muzzling ordinance to aid in the fight, the department can only see that the victims of dogs are given Pasteur treatment, and hope for the best. Dr. L. W. Childs has been retained by the department to give the Pasteur treatment. Commissioner Bishop has pointed out that many of the dogs that have bitten people are owned dogs, and not "strays," and he is endeavoring to gain the co-operation of dog lovers and fanciers in an effort to force through an emergency muzzling and licensing ordinance. Just as it solved the problem in England, so it seems to be the only solution here. The number of cases already reported is proof positive that quick action is needed.

\* \* \*

Milk dealers have until April 15th to comply with the new Pasteurization ordinance. This was the compromise date agreed upon by Commissioner Bishop at a meeting of the city's milk dealers called recently. Many have already met the requirements of the new order, and the others are rapidly falling in line.



## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

*RENAL INFECTIONS.* A very interesting and valuable symposium on disease of the kidneys was recently presented in several papers by well known authorities, *Surgery, Gynecology and Obstetrics*, 1915, XXI, 403. Since this subject is of such importance to both gynecologists and obstetricians and the papers being of unusual merit, it is deemed advisable to summarize them in this column.

Doctor Hugh Cabot, in an analysis of 153 recent cases of stone in the kidney or ureter, found that 26 abdominal operations had been done on these patients for relief of pain, which was usually abdominal in location or referred to the back, though it was never such as to suggest stone. If, therefore, pain is relied upon as important evidence of stone, it will often be misleading.

Bladder irritability and abnormal urine may be the only symptom of stone. In 14 per cent of stone cases the urine was found persistently normal, another avenue for mistaken diagnosis. Then, also, the X-ray examination, upon which so many are over-dependent, gives negative plates in at least 10 per cent of stones, and also may easily lead to a diagnosis of stone in kidney or ureter, whereas the shadow has been cast by a calcified lymph gland or other foreign body. Such mistakes can almost, if not always, be avoided by the use of radiograph catheters and stereoscopic plates. Wax tip catheters will practically always afford a positive diagnosis of stone in the kidney or ureter unless the stone is buried in the tissues. This means of diagnosis should always be used when X-ray plates are negative and other symptoms of stone are present.

Doctor George G. Ward calls attention to the frequency of kidney infection post-operative, characterized by otherwise unaccountable elevation of temperature some days after operation, sudden in onset with concomitant symptoms of septic absorption. Furniss believes these infections are embolic in nature, and that they more often follow in septic cases bears out this view. There are three types of infection depending upon the degree of virulence and nature of the offending organism. The first, mild in character, yield to flushing the kidney by the ingestion of water

and hexamethylenamin, rest and proper diet. In the second type the kidney contains numerous septic infarcts in the cortex. Decapsulation or incision with drainage usually results in recovery. The third type is fulminating, characterized by profound toxemia, and is rapidly fatal unless nephrectomy is done.

One should be on the lookout for this complication, which may be introduced by vesical irritability and mistaken for catheterization cystitis.

More individual laboratory work by the diagnostician is urged by Doctor Arthur H. Curtis, for, as he says, laboratory reports are too often relied upon and are not always done with the same precision and care as they deserve.

The disregarding of small amounts of pus in women's urine is criticised, and it is urged that whenever constantly found, the patient should be catheterized. The constant finding of pus in a catheterized specimen, in the absence of gross bladder lesions, points to kidney lesion.

Post-partum and post-operative bladder function is the most interesting subject of Doctor Fred J. Taussig, who gives his findings in 157 puerperal and 405 post-operative cases.

It was found that 3.8 per cent of women required catheterization one or more times after delivery. The time of voiding spontaneously after delivery varied between 1.5 and 22 hours, with an average of 7 hours. It was found that the shorter the labor, the earlier the woman voided. Perineal lacerations lengthen but very slightly the time of first voiding, nor did they increase the frequency of catheterization. Operative interference increased the average time of the first voiding by two hours.

Of the 405 post-operative cases, catheterization was necessary in 23.2 per cent. The average time of first urination being 12 hours after operation, with a variation of less than one ounce to 30 ounces, and averaging 6 ounces.

The puerperal ischuria was attributed to edema around the internal sphincter, the increased capacity as described by Stener-nagel, severe forceps operations, vaginal packs, trauma at trans-peritoneal caesarean section and nervousness. Among the post-operative cases, interposition for prolapse, drainage cases, radical operation for carcinoma and perineal work were most frequently followed by necessary catheterization. The length of anesthesia affected the results, as following short anesthetics of the



puerperal cases fewer catheterizations were required than after the longer surgical anesthetics, where it was also noted that the longer the anesthesia the more frequent the necessity for catheterization.

In quite a number of cases that voided spontaneously there was residual urine in the bladder, which Taussig believes of great importance in favoring infection. To overcome this atony of the bladder, he advises the injection of several ounces of air into the full bladder, the air acting as a mild irritant and promoting contraction. This method has given the author better results than allowing the patient to sit up or get out of bed to void, pituitrin, 2 per cent boro-glycerine solution, etc. It might be added that a very important point in post-operative and puerperal care is to see not only that the patient voids, but that she does not accumulate a residual urine.

Although, as stated above that pain is a most deceptive symptom in disease of the kidney and ureter, there are several points emphasized by Doctor J. Bentley Squire which are most valuable. Squier states that renal lesions producing pain alter the mechanical factors of urinary secretion or involve the capsule or pericapsular tissue. Kidney pain he divided into two types: the first, true renal pain located in the flank and lumbar region, dull and aching in character, usually of maximum intensity, constant, and without radiation; the second type, diffusely located in the lumbar region along the iliac crest, colicky, of varying intensity, intermittent and radiating through the inguinal region into vulva, scrotum or thigh. To determine that pain is of nephrogenic origin, it must be associated with some other findings, as pain with pus or blood but without cystitis, suggesting calculus; pain with pus, with cystitis, suggesting tuberculosis; pain without pus, without cystitis plus tumor, suggesting aseptic hydronephrosis; pain with blood, without cystitis, malignant disease, etc. Renal pain is never paroxysmal, but dull and aching in character. Stooping is not painful, but local tenderness is present and percussion in the lumbar region with the closed fist will cause marked aggravation of true renal pain. Kidney pain is less in the morning and increases during the day. Another valuable point is that distention of the renal pelvis and upper ureter is associated with urinary frequency, but usually without painful urination.

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## NEUROLOGICAL REVIEWS

By T. S. KEYSER, M. D., Cleveland

*On Muscular Tonus. J. W. Langelaan. Brain, Vol. XXXVIII, Part III, p. 235.*

By a series of very careful experiments on isolated muscle, the author shows that atonic muscle possesses two fundamental properties, viz., elasticity and plasticity. Elasticity is defined as momentary yielding to sudden stress; plasticity as slow yielding to continuous stress. Elasticity is a reversible phenomenon because the strain disappears entirely with the removal of the stress; plasticity is an irreversible phenomenon, for the muscle does not return to its original state. The variation in the latter case, therefore, is a permanent deformation—the criterion of plastic bodies such as lead.

The aim of the author in this article is to show the role which these two properties of muscle play in the phenomenon of muscle tonus.

Striped muscle has been proven to have a dualistic motor innervation: first, the well known axone from the motor cell of the anterior horn, which terminates in the motor end-plate from which fine fibrils extend at a right angle along the edge of the anisotropic disc, where they seem to end; second, a motor sympathetic axone, which ends in a fine net of neurofibrils, which are embedded in a small sarcoplasmatic end-plate. The sympathetic medullary motor cells are situated principally in the thoracic part of the cord. The afferent impulses which go to form the reflex segmental arc are of both proprioceptive and exteroceptive origin.

The dualistic innervation of striped muscle has been held for several years by a number of investigators, and may be formulated as follows: striped muscle consists of a sarcoplasmatic mass, innervated by a sympathetic fibre, analogous to smooth muscle, in which is embedded a striped apparatus which forms the termination of the motor axone of the anterior horn.

The tonic muscle when subjected to stress shows an additional property to that of the atonic muscle, viz., elasticity and plasticity, namely the property of contraction. This latter phenomenon is due to a stimulation of the proprioceptive fibres of the muscle itself which, through the reflex arc, causes contraction of the muscle



by stimulation of the motor neurones. Under uniformly increasing weight (stress) the tonus at first quickly increases and then slowly decreases, while under constant stress the tonus falls suddenly, due to the fact that stimulation of the proprioceptors ceases. The elasticity of muscle is practically constant and also the same in atonic or tonic muscle. It, therefore, is of small note and may be neglected in the consideration of tonus. Thus, the tonus of muscle is increased by the stimulation of the afferent fibres from the muscle whenever an increased stress is applied to the muscle.

In atonic muscle the property of plasticity as described above was permanently overcome by the addition of sufficient weight. On the other hand, in tonic muscle, the plasticity is first increased, then decreased by stress, and, after withdrawal of the stress, regains its plasticity through the function of the nervous mechanism. Tonus may be defined, therefore, as plasticity which is an inherent property of muscle but maintained by the integrity of the nervous mechanism.

Experiments by the author on reciprocal inhibition, fully demonstrated by Sherrington, elucidates the phenomenon of the dualistic innervation of muscle. Stimulation of the anterior tibial muscles causes a sudden increased tonus of the gastrocnemius, followed by a fall, which is followed by a second slight rise of tonus. This was found to be present in many experiments. The first contraction is designated as the "tonic contraction" and the second as the "twitch." The author gives evidence which indicates that the tonic contraction is connected with the sarco-plasmatic mass and, therefore, controlled by the sympathetic motor cells which innervate this part of the muscle. The twitch, which is an abrupt unsustained contraction, is connected with the striped apparatus and therefore under the control of the anterior horn cells.

Muscle tonus is, therefore, largely plasticity under control of the sympathetic nervous system, which maintains a muscle in a constant state of tone, independent of the length of the muscle. It is entirely analogous to the tonus of unstriped muscle, viz., the musculature of the bladder, which maintains a definite pressure whether the bladder contains much or little urine. The plasticity is increased by stimulation of the proprioceptive fibres, especially under the condition of stress either in

the muscle itself or its antagonists. The anterior horn innervation of the striped apparatus is independent of plasticity and is a property of striped muscle which unstriped muscle does not possess. It subserves the phenomenon of voluntary or automatic contraction of muscles to some purposeful end.

The question of the true reflex nature of tendon reflexes has been questioned by many investigators, notably Gowers. Sherrington and others, however, have found indubitable muscular reflexes with as short latent periods as the tendon phenomena. The author believes the deep reflexes are true reflexes. The mechanism consists of a sudden stress to the muscle produced by tapping the tendon, which causes a stimulation of the proprioceptors and, thus, reflex motivation through the efferent neurones. The author was able to demonstrate that both sympathetic and anterior horn motor cells are stimulated, giving a dualistic contraction of the muscle, viz., a twitch upon which is superimposed a tonic contraction. Clinically, it is well known that a tendon reflex may be brisk or sluggish, independent of its amplitude. S. de Boer has shown that a brisk reflex occurs when the rami communicantes of the sympathetic chain are destroyed. This is apparently due to the absence of the tonic contraction. On the other hand, in some cases of locomotor ataxia, the twitch is diminished or absent, resulting in a sluggish tendon reflex. It is well known that the cerebral cortex exerts an inhibitory effect on the spinal reflexes through the pyramidal tract. In a similar manner, the extrapyramidal motor centers (corpus striatum, etc.), exert an inhibitory effect on the sympathetic motor apparatus. This explains the rigidity occurring in lenticular degeneration and paralysis agitans. In lesions of the pyramidal tract the contractile tonus is increased; in lenticular lesions, the plastic tonus.

A clonus occurs when the excitability of the reflex arc is so exalted that a contraction of muscle causes sufficient stimulation of the proprioceptors to again engender a contraction, thus continuing indefinitely as long as sufficient resistance (stress) is maintained. The phenomenon is dependent on the contractile tonus rather than plastic tonus; or more exactly, a clonus is a series of twitches superposed upon a tonic shortening or tetanus.

The general conclusion may be drawn that muscle tone consisting of contractile and plastic tonus, the tendon reflex, and



clonus are closely allied phenomena. In tonus the autonomic component prevails; in the tendon reflex the twitch predominates; in the clonus a series of twitches is superposed upon a tonic (autonomic) tetanus.

Strychnine stimulates principally the sympathetic, producing an increase in the duration of reflex contraction (plastic tonus). A lesion between the thalamus and brain-stem produces a similar effect, which Sherrington designates as "decerebrate rigidity." The cerebellum is the main ganglion of the proprioceptive system and is antagonistic in its action to the mid-brain; that is, the mid-brain nuclei (corpus striatum and thalamus) are inhibitory to plastic tonus while the cerebellum is stimulatory. This explains the muscular asthenia occurring in cerebellar lesions.

*Studies on the Localization of Cerebellar Tumors. Grey. Annals of Surgery, Vol. LXII, No. 2, p. 129.*

The records used as a basis for this article are from cases in the neurological service of Doctor Cushing at the Johns Hopkins Hospital and at the Peter Bent Brigham Hospital. A series of 60 cases, in which the lesion had been certified, were selected from 200 with cerebellar or cerebral new-growths. The features considered are the position of the head, atrophy of the occipital bones, local tenderness, and suboccipital discomforts.

Of 58 certified cases of cerebellar and extracerebellar tumor an unusual attitude of the head—tilted so that the ear approximated one shoulder—was found in 23. In the majority of these the change in position was slight. Of 43 certified cases of tumor lying anterior to the cerebellum only 3 showed any tilt or rotation of the head. The unusual attitude in these 3 cases was scarcely noticeable. About 40 per cent, then, of the cases with cerebellar tumor showed some change in the position of the head, while only about 7 per cent of the cases with tumors anterior to the cerebellum showed any unusual attitude.

These findings indicate that a tilt or rotation of the head in a patient with symptoms pointing toward an intracranial tumor is suggestive of a subtentorial new-growth. Such an attitude, however, has no additional significance in localizing the lesion in one or the other side of the posterior cranial fossa.

Backward retraction of the head was a feature in 8 of the 60 cases of cerebellar and extracerebellar tumor. Typical opis-

thotonos attacks appeared in two of these. A similar position was noted in none of the cases with tumors lying anterior to the cerebellum. Backward retraction of the head, then, is characteristic of new-growths situated below the tentorium.

While atrophy or osteoporosis of the subjacent bone may occasion occipital tenderness in certain cases, comparisons of the clinical and operative findings in this series of cases have shown no consistent relation to exist between the two.

Of 59 certified cases of cerebellar and extracerebellar tumor some form of suboccipital discomfort was present in 44, about 75 per cent. Tenderness in the subocciput was found in 21, 36 per cent. There was more or less soreness or stiffness of the neck muscles in 18, nearly 31 per cent. Accordingly, headache or pain is the most frequent of the suboccipital discomforts.

Of 43 certified cases with tumors lying anterior to the cerebellum some degree of suboccipital discomfort was found in 14, approximately 33 per cent. Suboccipital tenderness was present in 8, nearly 19 per cent. Suboccipital headache or pain appeared in 10, about 23 per cent. Soreness or stiffness of the neck muscles were complained of in 6, 14 per cent. As a rule the occipital discomforts were much less intense in the cases with tumors situated anterior to the cerebellum than in those with subtentorial new-growths.

Taking the series as a whole, no consistent relation has been found between the part of the posterior cranial fossa occupied by the tumor and the site of discomfort. When unilateral suboccipital discomfort is present, however, it is slightly suggestive of the side of the new-growth.

These findings indicate that suboccipital discomforts are present more than twice as often in patients with subtentorial new-growths as in those with tumors situated elsewhere in the brain; and, though they afford only slight assistance in localizing the lesion in one or the other side of the posterior cranial fossa, they nevertheless rank with asynery (limb ataxia, staggering gait, etc.) as the most important indications of a subtentorial localization of intracranial new-growths.

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## REVIEW OF THE PROGRESS OF MEDICINE

By V. C. ROWLAND, M. D., Cleveland

*Paratyphoid Fever. A Study of Fatal Cases. Bertrand Dawson and T. H. Withington. Quarterly Journal of Medicine, 1916, IX, p. 98.*

Fatal cases of paratyphoid are sufficiently uncommon to make a pathological report of considerable value in the knowledge of the infection. The main characterization of the clinical course of paratyphoid has been that of a mild typhoid. In these fatal cases, the resemblance to true typhoid was even closer. Variations from the type of typhoid occurred in the clinical course of the disease in the absence of abdominal distention and of the toxic comatose state. Rose spots, present in 13 out of 17 cases, were larger and of less regular outline than the average in typhoid. There were four cases of pneumonia in the 17 of paratyphoid—two with abscess formation and one with infarction and pleural effusion.

In the circulatory system, the pulse was about proportionate to the temperature and was dicrotic in 6 of the 17 cases. Dilatation of the heart was rare and slight in degree and no endocarditis was seen. The heart muscle was pale and flabby.

The spleen was enlarged in 8 cases, in 6 of which it was recognized clinically. In two there were abscesses of the spleen. The lesions in the small intestine are quite like those of typhoid. In all but two cases there was ulceration, most marked and constant in the lower two feet of ileum. The large intestine, however, is more extensively involved than in the average typhoid, in spite of the fact that abdominal distention is less marked. In three cases there was disease of the appendix, causing local peritonitis and one case was gangrenous.

The cause of death in the 17 cases was as follows:

Perforation .....	2 cases
Peritonitis .....	2 "
Hemorrhage .....	2 "
Hemorrhage and toxemia.....	3 "
Toxemia .....	4 "
Pneumonia .....	2 "
Splenic Abscess .....	1 "

The number of purulent complications would suggest a special tendency to suppuration in paratyphoid infection. This

group of cases also refutes the statement sometimes made that perforation does not occur in paratyphoid.

*The Pain of Diaphragmatic Pleurisy.* By Joseph A. Capps. *American Journal of Medical Sciences*, CLI, 1916, p. 333.

The author has made a critical study of 61 cases of diaphragmatic pleurisy and also supplemented his investigations by experiments on the sensitiveness to pain of various parts of the pleural surface. He found that the peripheral portion of the diaphragmatic pleura was very sensitive and that scratching this part produced referred pains in the abdominal wall, usually in the hypochondrium but at times extending to the groin. The sensory nerve supply to this part of the pleura accordingly seemed to be through the 6th to 12th thoracic nerves. Irritation of the central part of the diaphragm caused referred pain in the neck, especially along the border of the trapezius muscle or in the supraclavicular fossa and rarely directly over the phrenic nerve.

In the clinical study of the 61 cases the findings agreed quite well with the experimental facts. The abdominal referred pain which occurred in 54 cases was most commonly localized in the gall bladder region or somewhat nearer the mid-line—distinctly less frequently in the appendix region and only occasionally elsewhere. Very instructive is the list of mistaken diagnoses among these cases: appendicitis, 9 cases, 2 operated; cholecystitis, 6 cases, 2 operated; perforated ulcer of the stomach, 2 cases, 1 operated, and liver abscess, 2 cases, 1 operated.

The referred neck pain occurred in 33 of the 61 cases and localized as above stated. The tenderness over the phrenic nerve which has been emphasized so much occurred in only one case. Hiccough occurred in only five cases, but vomiting was present in ten cases and served to increase the simulation of abdominal inflammation.

In the differential diagnosis the theory proposed by Ross is of definite value—that there are two types of pain in visceral inflammation: (1) The splanchnic or visceral pain which is conveyed directly to the cord and brain through the splanchnic nerves and which is a dull pain located near the site of its origin. (2) The somatic or referred pain which is conveyed through the splanchnic nerves to the posterior roots of the cord and which is localized in the distribution of the nerves from the irritated segment. In this form the skin and muscles are more sensitive to



pain and touch, while in the visceral pain there is greater tenderness to deep pressure. Accordingly, in diaphragmatic pleurisy pinching and scratching the skin is the more painful, while in appendicitis deep pressure is the more painful. In other words, in a doubtful case the skin hyperesthesia commonly considered as confirmatory evidence of an acute abdominal inflammation is more suggestive of referred pleural pain than of abdominal disease. Evidences of respiratory infection should be sought for, such as physical signs in the chest, herpes, leucocytosis, rapid respiration, etc.

*Ventricular Hemorrhage. Alfred Gordon. Archives of Internal Medicine, 1916, XVII, p. 343.*

The more exact localization of the lesion in cerebral hemorrhage is of importance because of the occasional opportunity of relieving intracranial pressure by a decompression operation. The author has studied the symptom complex of hemorrhage into the ventricles, basing his observations mainly on 5 cases in which there proved to be no involvement of brain tissue proper. In 2 of these there was hemorrhage in both lateral ventricles; in the other 3 cases, blood was found in only one lateral ventricle.

Clinically the differential features were the sudden onset of the most profound coma without any premonitory symptoms, convulsions most marked on the side opposite to the lesion, and the absence of marked paralysis. Ankle clonus and the toe phenomenon were absent. The profound coma lasted several days in these cases.

The symptoms are apparently due simply to pressure on the brain tissue. This occurs on the side opposite the mass of blood, and the brain is displaced to that side. Theoretically, in well-selected cases, decompression is indicated and the more promptly it is done the better chances of preventing permanent damage to the brain. However, in one case operated on the 5th day there was considerable improvement following decompression.

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# The Cleveland Medical Journal

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Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

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## EDITORIAL

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### "THE LINE:" "TO BE OR NOT TO BE"

On another page of this number of the *Journal* is found an article in regard to the effect of the "segregated district" on fresh syphilitic infections. We must admit, in the beginning, that figures prove little. Two persons, using the same data, may and often do arrive at exactly opposite conclusions. Many facts and circum-



stances must be taken into account in collecting given statistics, and these are often so complex that it is almost impossible to draw any sane and just findings. But in this case the figures are so overwhelmingly against the "zone" that we believe they should be taken seriously into account. Though we would hardly be willing to admit that there has been generally such a marked decrease in syphilis as the statistics quoted would show, yet in the Lakeside Clinic we can personally certify to them. Moreover, there is a certain large class of individuals, viz., young men, even college students, who are not so prone to look for trouble if they do not know where it is easily found. This also applies to the young Saturday night excursionists from nearby country towns. Moreover, there is no such a place as a *lawful* "line." They take in one and all if they have the coin, despite stringent laws to the contrary. It has already been shown\* in another place that of 19 luetic minors in the Lakeside clinic, the youngest being 14, that 13 of them were contracted on the "line." As to the popular conception that regulation means less disease, this fallacy has been disproved time and again. Sooner or later all prostitutes have syphilis and gonorrhea in one stage or another, and the supposedly healthy inmate of the "*demi-monde*" may one moment be well and the next syphilitic—medical inspection revealing nothing. The "line" is a choice spot for the collection of degenerates, criminals, drug fiends and "riff-raff" in general, and Cleveland will surely rue the day if it be called once more into existence. Let us have more figures such as those given, let us have the facts, and as a united medical profession show the public what an "ulcer" certain persons would bring back into our fair city.

H. N. C.

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\*Cole, H. N., *Ohio State Medical Journal*, September, 1915.

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## OHIO STATE MEDICAL ASSOCIATION ANNUAL MEETING IN CLEVELAND MAY 17, 18, 19, 1916

### Preliminary Program of the Medical Section

John Phillips, M. D., Cleveland, Chairman.

H. D. Blakey, M. D., Columbus, Secretary.

Wednesday, May 17, 2:00 P. M. (Lattice Room, Mezzanine Floor, Hotel Statler).

#### 1. The Question of Treatment and Curability of Syphilis.

Louis A. Levison, M. D., Toledo. Discussion, C. L. Cummer, M. D., Cleveland.

2. **Deductions from the Treatment of Syphilis with Salvarsan**, H. N. Cole, M. D., Cleveland. Discussion, M. L. Heidingsfeld, M. D., Cincinnati.

3. **Why Is Early Tuberculosis So Often Not Diagnosed**. C. O. Probst, M. D., Columbus. Discussion.

4. **Two Intimate Experiences with Aortic Aneurysms** Ralph Updegraff, M. D., Cleveland. Discussion, V. C. Rowland, M. D., Cleveland.

5. **The Need of Greater Appreciation of Foods**, T. Herbert Infield, M. D., Zanesville. Discussion.

Thursday, May 18th, 9:00 A. M. Joint session of Medical and Surgical Sections. (Ball Room, Mezzanine Floor, Hotel Statler).

1. **Symposium on Goitre**: (a) Medical Paper, J. P. Sawyer, M. D., Cleveland; Discussion, Richard Dexter, M. D. Cleveland. (b) Surgical Paper, George W. Crile, M. D., Cleveland; Discussion, Andre Crotti, M. D., Columbus.

2. **State Health Insurance for Ohio**. M. B. Hammond, Ph. D., Dept. of Economics and Sociology, Ohio State University, Columbus.

3. **Symposium on Congenital Stenosis of Pylorus**: (a) Medical Paper, E. W. Mitchell, M. D., Cincinnati; Discussion, H. J. Gerstenberger, M. D., Cleveland. (b) Surgical Paper, Dudley W. Palmer, M. D., Cincinnati; Discussion, Frank Emery Bunts, M. D., Cleveland.

Thursday, May 18th, 2:30 P. M. First order of business, election of Chairman and Secretary for ensuing year.

1. **The Value of Fractional Analysis of Gastric Secretion**, Harold Feil, M. D., Cleveland. Discussion, Andrew S. Robinson, M. D., Cleveland.

2. **Medical Practice—Past, Present and Future**, George H. Matson, M. D., Columbus. Discussion, Robert H. Bishop, Jr., M. D., Cleveland.

3. **Common Circulatory Disturbances**, Frank Winders, M. D., Columbus. Discussion.

4. **Disassociation Jaundice**, C. F. Hoover, M. D., Cleveland. Discussion.



## THE ANNUAL REUNION OF MEDICAL ALUMNI

Unusual preparations are being made this year for the annual reunion of the Alumni of the Medical Department of Western Reserve University. The Alumni Association includes the graduates of the Medical Department of Western Reserve University, the Charity Hospital Medical School, Medical Department University of Wooster and the Medical Department of Ohio Wesleyan University.

With the increasing interest in these annual meetings, and the growing attendance occasioned thereby, the providing of better facilities for entertainment has become imperative. The old building on St. Clair and East 9th, although endeared to the hearts of all by its associations, has grown year by year more inadequate. The quarters in the faculty room have become far too small for the annual dinner, while the noise from passing vehicles and street cars has made the hearing of the speeches almost impossible. So this year a radical departure is to be made and for the first time in the history of the association the meetings are to be held elsewhere. For this purpose the University Club with its excellent auditorium, banquet hall and commodious grounds seems almost ideal.

The meetings will take place on Thursday, Friday and Saturday, the 8th, 9th, and 10th of June. During both the morning and afternoon of each of the three days clinics will be held in Lakeside, Charity and City Hospitals in medicine, surgery and the allied specialties. In addition special clinics will be arranged in the free dispensaries of Lakeside and Charity Hospitals in the afternoons. The various laboratories connected with the institution will also be open for inspection, together with the departments of anatomy, pathology, physiology, pharmacology and experimental medicine.

It is planned to have the members of the graduating class act as guides in conducting the visitors to the various laboratories and clinics. Those of the alumni who have possibly failed to note the rapid progress which the institution has made, will thus have ample opportunity to inform themselves of the work and the improvements in all the various departments. Probably to none will this be a greater revelation than to those of the alumni residing within the city itself.

In addition to the opportunities above mentioned the social side has not been neglected. On Thursday evening there will be

a smoker at the University Club which will be free to the various members of the association. The annual subscription dinner will take place at the club the following evening. This dinner will be followed by a short business meeting, after which the society will be addressed by some speaker of national prominence. This address will take the place of the after dinner speeches of former years.

Coming as it does immediately before the annual meeting of the American Medical Association in Detroit, the reunion this year should bring together the largest number of alumni in the history of the institution.

The officers of the Association are: *President*—Dr. Frederick C. Herrick. *Secretary*—Dr. Joseph C. Placak. *Treasurer*—Dr. Harvey A. Berkes.

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### HAVE A HEART

We are glad to take this opportunity to assure our readers that we have not published the last two issues of the *Journal* on different paper and without our customary cover because of any artistic choice in the matter. We may truthfully blame this situation upon the War.

A shortage in the supply of rags—a shortage in sulphite—a lack of dyes—increased cost of paper—increased cost of publishing—but sad to relate *no increase* in contents of the *Journal pocketbook*. So, pending a purchase of paper and cover we could afford, we have hoped for the kindly tolerance by our friends for our dismantled appearance.

We have, however, made the discovery that some few of our readers like us only for our clothes and would rather see us dead than not “dressed up.” We are indeed glad there are but few of these.

A more comforting discovery is the large number of our readers who have understanding minds and realize our problems and better still have *hearts*. These friends were not afraid to express their confidence in us when we lacked a good coat. To these loyal supporters of the *Journal* we dedicate the new cover of this issue.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Typhoid Fever:** In the *Medical Record* for Feb. 19th, Beverley Robinson presents some new practical points in the treatment of typhoid fever. Many years ago, not a few of our ablest practitioners accepted the facts as reported from the German hospitals of the great success of the Brand treatment, and felt called upon to carry out their doings here. In well governed hospitals it could be and was done. In private practice it was another matter, and only in exceptional cases was it really feasible to give the Brand baths. Fortunately some of us were never convinced that the Brand system should be commended in such a wholesale way. We believed that by sponging the body and limbs with water, or water and alcohol at 70° to 80° F. we could reduce the temperature, give tone to the nervous system, and promote the comfort of the patient as far as was essential. It would now seem to him that the majority of practitioners take this view at the present time. He has always insisted that patients should drink water freely and often, but has not felt like forcing it as some do, and in very large quantities—as much as several quarts in twenty-four hours. When the urine diminishes notably in quantity and perhaps gives evident signs of a low grade of nephritis, with casts and albumin present on examination, we must try to remedy these symptoms, and here we may use with great advantage the short recurrent tube of Doctor R. C. Kemp, the value of milk-free diet, and enteroclysis in typhoid times in the twenty-four hours. We owe to Doctor Seibert, and to Doctor R. C. Kemp, the value of milk-free diet, and enteroclysis in typhoid fever. Doctor Kemp writes with milk-free diet my patients have had much less tympanites, and the temperatures have run much lower, and the disease has run a much milder course. In fact, by this method, combined with rectal irrigation and the ingestion of large quantities of water, the temperatures have generally kept below 102.5 F., so that friction bath (Brand), or the Nauheim bath could be omitted. He is not in complete accord with giving an initial dose of calomel or other purgative and later relying upon enemata. He believes that even at the height of the fever even to the fourth week it is desirable to give an occasional dose of palatable castor oil, or a little purgative water, like Hunyadi. He is quite confident it is beneficial and does not believe it increases the danger of either perforation or hemorrhage. Whether there be constipation or diarrhoea, he considers the laxative by the mouth desirable treatment. It should be given at least every two or three days. He advises saline solution and in low states, intravenously, especially that recommended by Hare, calcium chloride 0.25, potassium chloride 0.1, sodium chloride 9.0, sterilized water 1000 c.c. As to the use of vaccines intravenously, he does not consider this line of treatment encouraging.

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**Pulmonary Tuberculosis:** Myer Solis Cohen in the *New York Medical Journal* for Feb. 26th, calls attention to the use of quinine and urea bichloride in the toxemia of pulmonary tuberculosis. The far advanced stage of pulmonary tuberculosis presents the greatest difficulties and disappointments in the treatment of this disease. Medical literature contains little that is helpful in the treatment of such patients. Apparently most physicians—especially tuberculosis specialists—are so perfectly satisfied with their knowledge and ability, that, when the measures they employ fail to benefit, they jump to the conclusion that nothing at all can be done for the patient. Probably the most distressing and uncontrollable feature in the far advanced stage is the toxemia. We know that this is due to the disease, and disappears when this is cured, and that naturally all measures directed to curing the disease will aid in

curing the toxemia. Consequently fresh air, rest and good food are always indicated in the treatment of tuberculous toxemia, and by many this is the only treatment employed. They are, of course, essential, the *sine qua non*, but they do not constitute the whole treatment. Among the drugs that have been employed, creosote and its carbonate probably hold the highest place in the esteem of most physicians. Another drug that is of inestimable value in combating toxemia, including the toxemia of pulmonary tuberculosis, is the hydrochloride of quinine and urea. This drug has been used empirically in the treatment of pneumonia with pronounced success by a number of observers, including the writer of the article. One of the remarkable results from its use in the latter disease, aside from its bringing about an early crisis, has been the controlling of the toxemia, which seems to diminish as the temperature declines. Some recent German investigations have indicated the scientific basis for the action of quinine in the neutralization of toxins. As to its action in reducing septic temperature in advanced pulmonary tuberculosis, here first used by Solomon-Solis-Cohen, in very many cases its use will cause a reduction of the fever, and an amelioration of the other symptoms. It is not a specific, however, and one who expects invariably favorable results will be doomed to disappointment. At the same time its use will agreeable surprise those who have regarded as hopeless the reduction of a high septic temperature and who have been discouraged by the failure of previous efforts. He cannot say why in some instances it gives brilliant results while in others it fails. The therapeutic test alone will determine the result. He gives the drug by mouth in capsules. He has not given it intramuscularly, fearing abscess formation. Some have given it intravenously, but it should never be administered subcutaneously. The dose may be five, seven and a half, or ten grains. Occasionally fifteen grains might be justified, and in susceptible individuals two or three grains may be sufficient. It may be given every three or four hours, or three times or twice a day, or once a day. Doses and intervals depend on the effect produced.

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**Diabetes:** In the February number of the *American Journal of the Medical Sciences*, Nellis B. Foster treats of the relation of prognostic factors to treatment in diabetes. As to the dangers which beset the existence of the patient with diabetes, numerically infections take first rank or account, directly or indirectly, by precipitating coma, for over 78 per cent of the deaths. Even slight cold becomes a very serious matter with a diabetic child; tonsilitis that would hardly confine a healthy man to the house has sent many diabetics to the grave.

Pneumonia, in his experience, has been invariably fatal, often because it precipitates acidosis and coma. Since these dangers which kill the majority of diabetics menace all alike, any mode of treatment which disregards these prognostic factors is lacking in foresight. There is no question, he believes, that the *average* diabetic not only has more comfort and sense of well-being when his urine contains no sugar, but that his actual resistance to disease is less. He refers to cases in middle life in which a severe glycosuria is not complicated by acidosis, and in which undernutrition and loss of strength are the striking features. The majority of these regain strength and energy after the glycosuria is controlled. As to whether a sugar-free urine indicates a state of affairs in the body economy which may be spoken of as holding the diabetic tendency in control, he has some doubts. But it is his belief that with those cases in which the diagnosis is made early, much can be accomplished by vigorous treatment. It matters not whether the blood sugar be reduced by the rapid method of complete fasting, or by the slower method of periodic fasts; the end that must be attained is a sugar-free urine, blood sugar as near normal as possible, and an absence of acidosis. The chief danger lies in the after period, when because the urine is so persistently



normal, patients and even physicians are led to doubt the necessity of diet, with consequences that are sometimes serious. With young patients, early or advanced, the danger to be feared is acidosis, and our therapeutic endeavors are directed to prevent its development, or abolish it after development. The question is, is starvation always safe? With diabetics, as with normal persons, starvation induces acidosis, and even this, he thinks, can and should be avoided, as one cannot tell where it may lead. Conclusions are: Every case of diabetes demands the most careful study, not only of the diabetic state, but also of all conditions which may influence the future health of the patient. Infections must be kept in mind as the constant danger. Early cases must be kept free of glycosuria, in order to raise resistance, and to avoid the development of acidosis. This can be done even in face of acidosis by the use of restricted low diets. With advanced cases, glycosuria must be controlled in order to regain normal weight and vigor. With grave acidosis, this also can now with many cases be successfully abolished. The chief difficulty in treating all diabetics is the necessity of constant vigilance over years.

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**Acute Nephritis:** The *Therapeutic Gazette* for February states editorially that it is generally considered by clinicians that substances which are stimulating in their action are prone to be somewhat irritating, and that for this reason stimulants are often contraindicated when disturbance of function arises as the result of acute or subacute inflammatory processes. There is, however, little experimental, or so-called scientific evidence, to support this view, it being arrived at by a process of reasoning rather than by direct experimental work. Such experimental results are, however, beginning to be presented to us, although it is very evident that when acute or subacute nephritis is induced in the kidneys of animals by the use of irritant substances like uranium cantharides or other irritants, the condition is not identical with subacute or chronic nephritis, which are forms of renal disease most commonly met with in practice. O'Hare, in the *Archives of Internal Medicine*, reported an investigation as to the influence of theobromine sodium salicylate (diuretin) in acute chromate nephritis induced in rabbits. It is interesting to note that in the tubular nephritis caused by potassium bichromate the administration of the theobromine sodium salicylate, which is designed to increase the urinary flow, rendered scanty by the inflammatory process, was found to shorten the life of the animal, although in mild cases it seemed sometimes to prolong it. More important, O'Hara concluded that, on the whole, this drug seems to increase the lesion in the kidney and to hinder the excretion of water, phenolsulphonaphthalein and possibly nitrogen. While this research does not conclusively prove the point, it certainly indicates that in the presence of acute or subacute inflammatory conditions in the kidney, indicated chiefly, from the clinical standpoint, by the presence of red blood cells in the urine, the administration of stimulant diuretics is unwise.

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**Apomorphine:** T. D. Crothers, in the March number of the *American Journal of Clinical Medicine*, writes concerning hypnotics in treating inebriety. In commenting on apomorphine for dipsomania he states that in cases of inebriety apomorphine is very largely used as a relaxant and depressant in the stages of delirium and delusional excitement. This is called chemical treatment, and when the drug is given hypodermatically in one-tenth grain doses, it is a powerful relaxant and depressant, producing stupor and sleep. Its action is so rapid and the effects are so profound, that it has come to be a very common remedy in the treatment of acute alcoholism. Its first effect is an intense nausea, eventuating in vomiting and possibly purging, also mental and physical

depression, followed by sleep. The patient who is wildly delirious and combative succumbs at once to its nauseating and depressing effects. The heart drops from 120 to 130 to 40 or 50 beats per minute and the vascular tension is also immensely lowered. The stomach, bowels and skin all are excited to intense eliminative efforts. The patient sleeps a few hours and awakens markedly prostrated and willing to do anything his attendants may wish him. This prostration passes off in the course of two or three days. Attempts have been made to treat alcoholics with this drug alone, giving  $1/40$  to  $1/50$  of a grain at night time, this producing stupor or sleep with very little nausea or depression. However, careful physicians soon abandon apomorphine as an alcoholic cure, as full of danger, and may cause possible collapse. In the hands of one practitioner several cases of fatal pneumonia followed the use of this drug. It evidently produced pneumoparesis. Several irregulars still continue to use it, more or less concealed. Fortunately, apomorphine is a very unstable compound and unless used very soon after it is prepared its effects will be uncertain or almost nil.

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**Organotherapy:** In *American Medicine* for February, Henry R. Harrower summarizes the four fundamental principles of organotherapy. These may be conveniently classed as: (1) Substitutive; (2) Homostimulative; (3) Empirical; and (4) Specific. (1) Substitutive organotherapy. Extracts of the glands of internal secretion may be administered to supply a deficient physiological secretion of organs that correspond to those from which the extracts are made. The disorder under treatment may be due to absence, atrophy or functional inactivity of these organs, i. e., the production of their normal active principles has been reduced or stopped. This is the generally accepted phase of organotherapy, and a typical illustration of this category is the use of thyroid gland to replace in a degree the secretion which is missing in myxedema, cretinism. (2) Homostimulative organotherapy. The active principles of the various internal secretory organs have a definite stimulative and restorative action upon the glands which correspond to those from which the extracts are made. Hallion enunciates this principle in the following words: "Extracts of an organ exert on the same organ an exciting influence which lasts for a longer or shorter time. When the organ is insufficient, it is conceivable that this influence augments its action, and when it is injured, that it favors its restoration." This is the basis of a large share of the clinical value of organotherapy, and is represented quite typically by the use of bile in hepatobiliary insufficiency, or corpus luteum in functional ovarian disorders. (3) Empirical organotherapy. Certain animal extracts undoubtedly bring about widely differing clinical manifestations and as a result of accidental experiences have come to be quite generally used without what might be called a definite scientific basis. Common examples of this form are the pituitary treatment of functional ovarian disorders, or the parathyroid treatment of paralysis agitans. (4) Specific organotherapy. In certain circumstances extracts of certain organs excite a very definite physiological response, not by virtue of their homostimulative influence, but by bringing about a certain activity, or perhaps by counteracting some morbid symptoms not due to any change in the internal secretory action of the corresponding gland of the patient. The most decided and remarkable type of this class of remedies is the extract of the posterior lobe of the pituitary body, and its action upon unstriated muscle, especially upon the uterine muscle during labor.

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**Influenza:** The *Medical Council* for March states editorially concerning the vaccine treatment of colds and influenza, that epidemic influenza is a crude term, but expresses as well as any other what the



country has been passing through. As a matter of fact, the *B. influenzae*, causative of gripe, is a rather virulent organism. For want of a better term, the cases this season were called "influenza," but they believe they were really what the English call "epidemic colds." However that may be, the English have been treating their cases with vaccines, and with very great success. It is not always clinically practicable to determine the organism or organisms involved in these cases. Boards of health should make studies in every community, informing the physicians of the findings. When the newspapers get to talking about "the great epidemic of gripe," gripe it is for all who think they have it. Nearly every physician seen had a different treatment. Gripe and cognate troubles need more than ordinarily careful examination and diagnosis. Vaccines made from the *B. influenzae* are rarely effective, but it is a fact that the infection is usually a mixed one, the streptococci being almost always found. Autogenous vaccines should be exclusively used. Stock vaccines are available when one knows the organisms involved. Doses should be gradually increased, and sharp reactions avoided, except in septic cases, when large initial doses are needed. Catarrhalis, pneumococcus, or influenza vaccines may be theoretically indicated, but usually a mixed vaccine is what meets the indication, and here the influenza vaccine seems to possess some efficiency, that is, as part of a mixed vaccine. Drug treatment is upon an absolutely unsatisfactory status, and there is probably no definite drug treatment of these conditions. Symptoms vary, and these are met more or less by drugs which vary, with the ideas of the doctor.

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### NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Lyster's Prepared Casein Diabetic Flour.—Milg casein to which has been added a leavening mixture, sodium chlorid and saccharine. Used in the form of muffins in diabetes, etc. Lyster Brothers, Andover, Mass. (*Jour. A. M. A.*, Feb. 26, 1916, p. 653).

Antistreptococcus Serum Rheumaticus, Squibb.—Produced from strains of streptococcus from the joints and blood of cases of rheumatism. The serum is intended for use in cases of acute articular rheumatism. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Feb. 26, 1916, p. 653).

W. L. Cummings Chemical Co.:

Radium Bromide.

Radium Carbonate.

Radium Chloride.

Radium Sulphate.

Borcherdt Malt Extract Co.:

Borcherdt's Dri-Malt Soup Extract.

Borcherdt's Dri-Malt Soup Extract with Wheat Flour.

Borcherdt's Soup Powder.

## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred and twenty-seventh regular meeting of the Academy was held Friday, February 18, 1916, at the Medical Library, the Chairman, W. E. Bruner, in the chair.

The regular program follows:

**1. The Necessity for the Better Study of "Industrial Hygiene" and Occupational Diseases by the Medical Profession, by J. W. Schereschewsky.**

The speaker urged the necessity of a better study of the hazard to health which industrial conditions impose upon the worker. The health of the individual has come to be recognized as of paramount importance. Not only is this true when considered from an altruistic standpoint of the good of the worker. Improper working conditions ultimately result in the aggregate in an enormous loss of working time, and in the financial loss of millions of dollars.

The study of industrial health hazards is still in its infancy, and the data available for the drawing of deductions relative to the perniciousness of this or that industry with regard to the health of the worker engaged in any given one, is practically nil. In the first place, only a few hospitals have made any effort to collect such data, and the methods which they use has rendered the same practically worthless. To render such statistics valuable, both previous and present occupations of individuals should be recorded in detail and with exactitude. For, to class a man simply as a laborer or as a mill worker gives no data as to the exact duties in which he is engaged. In addition, his past employment may have been in any one of a hundred lines, and this previous employment may have been far more important in relation to his health than his present occupation.

Trained men should be engaged in the work, and such men should receive an adequate course in industrial hygiene while in medical schools. Such men should be familiar with the various lines of work embraced under the general head of each industry, and with the hazards to health which attend them.

The subject is one of paramount importance, and the speaker in closing made a plea for the establishment of hospitals and clinics for the exclusive study of occupational diseases. The United States is far behind other countries in not possessing such institutions.

(Doctor Schereschewsky's paper appears in full in this number of the *Journal*.)

**2. Occupational Mortality Experience, Derived From a Study of 94,269 Industrial Workers by the Metropolitan Life Insurance Company, New York, by Louis I. Dublin, Statistician.**

There are two kinds of relationship between occupations and conditions we find at death. In the first there is a clear and direct connection between the cause of death and the occupation of the deceased. Thus we note the obvious relation between the cause of death and the occupation of the deceased. Also we note the obvious relation between the use of lead in certain industries and the high proportionate mortality from lead poisoning; between the manufacture and sale of distilled liquors and the high mortality from alcoholism; between exposure to moving machinery and the high mortality from accident. But the relationships of the second group are of a more insidious character. The injurious factors are usually discovered only after an intensive examination of the conditions prevailing in the occupations. Thus, when we consider the number of activities which give high proportionate mortality from tuberculosis we find the presence of dust as a frequent concomitant to the industrial processes.



The dust may be mineral (as among masons and bricklayers), metallic (as among iron workers), or vegetable (as among cigarmakers and textile workers). The influence of posture is also found on examination to be important as a factor in the high tuberculosis rate; this is exemplified by certain inactive and sedentary occupations, like those of clerks, bookkeepers and office assistants. In some occupations the unfavorable influences of the work is not at once evident, but makes itself increasingly felt with duration of the service.

## CLINICAL AND PATHOLOGICAL SECTION

The one hundred and fourteenth regular meeting of this section was held Friday, February 4, 1916, at Cleveland City Hospital, the Chairman, Frank J. Geib, in the chair.

The regular program follows:

### 1. Presentation of Bone Cases, by C. A. Hamann.

#### a. Multiple Osteo-Chondromata.

The patient, a young man, aged 22, several years ago began to develop multiple tumors connected with the various parts of the bony skeleton. The masses were not epiphyseal in location. Structurally they were composed largely of cartilage, but contained some bony tissue. The deformities were not painful.

The case is unique in that ordinarily the condition is hereditary, but in the present instance not. It also differs from the type of case in which the tumors are epiphyseal in location, in which instance they are often covered by a bursa. The etiological factor which probably explains the development of the condition is that in such individuals there are islands of periosteal tissue at various locations, which at any given time may begin to develop, resulting in the formation of tumor masses.

#### b. Osteitis Fibrosis Cystica.

The case presented showed the typical features of the disease, which is variously called by the above title or by the name of Von Recklinghausen, the physician who first described the condition. The essential lesion consists of the formation of multiple cysts in the long bones. In the present case the lesions were completely healed.

#### c. Rickets.

The specimens shown were from a boy 14 years old, and consisted of the tibia and fibula, both showing very marked curvature and deformity. Speaking for rickets as the etiological factor in the case were the marked rachitic rosary which the child had, and also the typical rachitic head. Against the condition, however, were the facts that the bones were very soft and that there was practically no proliferation at the epiphyseal diaphyseal junction. The condition might be called an exaggerated case of rickets. Here, however, it was more probably a case of osteomalacia, juvenile form. The differentiation between the two conditions, however, is relatively slight.

#### d. Senile Gangrene in a Child, Aged 2 Weeks.

The case occurred in a child of 2 weeks. When eight days of age the toes of one foot became gangrenous, dry and mummified. Amputation was performed at the lower third of the thigh and the child made an uninterrupted recovery. Examination of the specimen showed a thrombus in the femoral artery.

### 2. Carcinoma of the Thyroid With Metastasis in the Pituitary Fossa, by R. Stepfield.

The patient, a male, aged 31 years, was hit in the neck with a piece of steel 7 months ago. One month later a swelling appeared in the neck. It disappeared and reappeared at intervals. For the past 5 months, however, the swelling constantly increased in size. The patient complained of dyspnoea, poor vision, difficult swallowing, nausea and vomiting. The left

pupil was twice as large as the right, the cornea was anesthetic and there were numerous opacities in the lens.

The patient died. Autopsy showed carcinoma of the thyroid, with metastases in the lung, liver, kidney, lymph glands and pituitary fossa. It surrounded the 3, 4, and 5 nerves.

### 3. Ainhum's Disease, by F. C. Herrick.

The patient, a negro, aged 40, came to the hospital complaining of sore toe. Some time previously he had applied carbolic acid to the toe for relief from corns. On examination the toe was found to be globular in shape, enlarged and with a constricting band about the middle. X-ray of the toe showed the constricting band about its middle. The band becomes tighter and tighter until ultimately the part is self-amputated.

F. C. Herrick, in discussion, called attention to the fact that the disease was a great rarity even in the tropics, where it occurs in greatest abundance, only a small number of cases having been reported. Cases which occur in this country are almost exclusively in Virginia and Carolina negroes. The process always starts at the digito-plantar fold. The disease has been called by some a tropho-neurosis, by others, a phase of leprosy, while still others, a phase of scleroderma.

### 4. Hydronephrosis, Secondary to Trauma, by Ray Forbes.

The patient, a man aged 38, entered the hospital for the first time 13 months ago, complaining of pain in the left upper quadrant of the abdomen. Physical examination showed only slight tenderness and rigidity over this location. The urine, however, contained many red cells. Cystoscopic examination showed that no urine was coming from the left ureteral orifice. Cystoscopic examinations repeated at intervals showed that progressively more urine was being eliminated by the left kidney, until a month after admission, when the 'phthalein output from the left kidney ran 12 per cent. However, X-ray of the kidney showed the pelvis to be as large as the body of the viscus. The patient was discharged.

Patient entered the hospital recently, a year after his first admission, suffering from pneumonia. He recovered and a cystoscopic examination showed a normal output of urine from the left kidney. The 'phthalein elimination, however, was only 3 per cent. The kidney was resected. The case was one of hydronephrosis. At operation the lower pole of the kidney was found to be supplied by an adventitious artery.

F. C. Herrick, in discussion, pointed out that the presence of the artery to the lower pole of the kidney had an undoubted effect on the productoin of the hydronephrosis. The condition here resulted, due to the presence of the artery plus the trauma. The kidney was drawn down and the flow obstructed.

### 5. Case of Hydronephrosis, by F. C. Herrick.

The patient, a man aged 27, entered the hospital complaining of pain in the right iliac fossa, and chills. At the age of 15 the patient had had renal colic for 2 days. When 17 years old he passed a stone which lodged in the fossa navicularis, from which location it was removed surgically. At 25 the patient had malaria while in the Philippines. Six months prior to admission to the hospital the pain in the right iliac fossa developed.

Three days prior to admission the patient was taken ill with vomiting and pain. Physical examination showed abdominal tenderness and rigidity. Both kidneys were palpable. The left kidney was slightly tender on palpation. Cystoscopic examination showed the left ureteral orifice to be large and oval, and the urine draining from it contained considerable albumin, more than that from the right. The 'phthalein test showed 240 c.c. output, with a 'phthalein content of 30 per cent, eliminated from the right kidney at the end of two hours, while that from the left kidney amounted to only 40 c.c. with a 'phthalein content of 5 per cent.

Operation was performed for appendicitis and the appendix was found normal. The right kidney was found to be very large, 7 inches in length.



The left kidney was small, 3 inches in length. X-ray of the left kidney, following metallic injection, showed disease of the upper pole, either dilatation or stone.

**6. Case of Meningitis of Obscure Etiology, by Sidney Venable.**

The patient, a man aged 27, entered the hospital complaining of cold and headache. He denied all previous illness. He had the signs of a meningitis, but aside from a slight headache was quite comfortable. His blood count showed a leucopenia.

Lumbar puncture showed a fluid with a positive Noguchi, a negative Wassermann and a cell count of 350 cells per c.m.m. The patient made an uneventful recovery. A later examination of the spinal fluid showed a cell count of 76 cells per c.m.m. The case was interesting in that although presenting the signs of a severe meningitis, the patient was only slightly uncomfortable. Culture of the spinal fluid failed to throw any light on the etiology of the condition.

Frank Geib, in discussion, suggested that the case was one of mild influenza meningitis, such as have been described.

**7. Case of Thromboangitis, by E. P. Carter.**

The patient, a young man, dated his present illness back three years, at which time he noticed that his small toe on the left foot had become discolored and the skin came off. Later the same cycle affected the right small toe. Later other toes were affected. The parts were dark, painful and showed diminished sensation.

At present the dorsalis pedis and tibialis anterior arteries cannot be palpated. Estimation of the blood flow in the two parts shows the minute volume of blood much diminished, being one-sixth that of normal.

The case may be an example of Reynaud's disease or of endarteritis obliterans.

**8. Presentation of Pericarditis Cases, By Frank Geib.**

The speaker presented a series of cases, showing the serious effect which may follow a mild attack of tonsillitis.

## EXPERIMENTAL MEDICINE SECTION

The eighty-sixth regular meeting of this section was held at the Cleveland Medical Library, Friday, February 11, 1916, the Chairman, Howard T. Karsner, in the chair.

The regular program follows:

**1. Diphtheria Carriers, by R. G. Perkins, H. O. Ruh and M. J. Miller.**

The present work was undertaken with two main ends in view, viz., the shortening of the period of quarantine for diphtheria, and the elimination of the diphtheria carrier, so-called. The problem is an important one. A carrier may be defined as an individual free from clinical manifestations of diphtheria but harboring in his throat virulent diphtheria organisms.

One difficulty in the pursuance of the problem arises from the fact that there are two forms of diphtheria, culturally and morphologically the same, but with the difference that the one is virulent, the other not. Even the guinea pig test in distinguishing between the two forms is not entirely reliable.

In determining at what period the individual carrying the diphtheria bacillus in his throat may be termed a carrier, the basis of judgment is derived by taking the average quarantine period for the disease, which varies between 18 and 21 days. The Shick test is also helpful, revealing as it does the immunity of an individual to the disease.

A study was made to determine the prevalence of carriers in various groups. In 1,000 school children there were 4 per cent of carriers. In an orphan asylum, where no clinical diphtheria had been recorded for 2 years, 11 per cent of the inmates were classified as carriers the first year, and 2 per cent the second. A group of 500 cases from the Babies' Dispensary

showed  $\frac{1}{2}$  per cent. The average from the grand total of 2,500 cases showed 4.4 per cent to be carriers.

From 2,000 to 2,500 cases of diphtheria are routinely reported in Cleveland every year. Most of the children affected lose the bacillus from the throat early. In some cases the cultures were positive for a long time. The average duration of quarantine was 20 days. Investigation showed that a number of the cases under quarantine for a long period of time were not carrying the diphtheria bacillus, but were being held up on account of the presence of Hoffmann's organism, which, while resembling the diphtheria bacillus, is entirely non-pathogenic. It is interesting to note that in Providence, R. I., the type of diphtheria bacillus which contains no granules was responsible for a higher per cent of fatalities than any other.

The part played by the Shick test in the study of diphtheria is interesting and important. The technic is to inject a minute amount of the diphtheria toxin subcutaneously. If the blood contains insufficient anti-toxin to neutralize this amount then an area of reaction and hyperemia develops about the site of the injection. If there is no reaction, it follows that the blood must contain an abundance of anti-toxin. On the other hand, the blood may contain insufficient anti-toxin to neutralize the toxin injection as specified by the Shick test, and still contain sufficient anti-toxin to immunize against an attack of diphtheria. A positive culture of diphtheria from the throat, and a positive Shick, means that the organism must be non-pathogenic. Routine use of the Shick test in institutions is an expense-saver, since through it one can determine which children are liable to be susceptible to diphtheria, and inject anti-toxin accordingly. Only children with a positive Shick need receive the anti-toxin.

The scattered distribution of cases in a diphtheria epidemic can be easily explained when we remember that a large percentage of children under 1 year, and a smaller percentage of all children under 10 years, have a natural protection against diphtheria. In determining immunity by the Shick test it must be remembered that no reaction should be called positive at the end of 48 hours. At that time there may be a spurious reaction due to skin tenderness. A positive Shick is still strongly present at the end of a week.

Many methods have been tried for the purpose of removing the diphtheria bacillus from the throats of carriers. Practically all have failed. Local application of anti-toxin to the throat, use of vaccines, opsonins, substitution of other organisms for the diphtheria bacillus, have all been found barren of results.

A number of cases have been treated in the present series by tonsillectomy, with gratifying results, and many carriers have been transformed into non-carriers. The rationale of the procedure is easily seen. The tonsillar crypts are favorite nesting-places for the diphtheria bacillus. All the cases treated by tonsillectomy showed positive cultures of diphtheria from the tonsillar crypts, even when cultures taken from the surface of the organ were negative. Many of the cases treated have been under observation for a considerable period, and the cultures from the throat have without exception remained negative.

## 2. Glioma (Illustrated by Lantern Slides), by Wm. T. Councilman, Professor of Pathology, Harvard Medical School.

The symptoms, pathology and methods of growth of brain tumors are extremely interesting. Nowhere else are abscess, cyst, tumor, tubercle, and gumma so confused as in the brain. Tumors of the brain may originate from a number of sources, from the meninges, from tissue remnants, from glands enclosed within the brain.

The glia itself is one of the most amazing of tissues. Structurally it conforms more closely to fibrous tissue than to any other. Virchow's description of the glia is extraordinarily accurate. To Weigert we are in-



debted for discovery of methods for staining the tissue. The glia is especially interesting because it is the best example of syncytial tissue in the body. In this type of tissue we have complete blending of the cellular and the intracellular substance. It consists of a fine mesh-work, a sponge work of reticulum in which the nuclei are imbedded.

Tumors of the glia are distinctive. Other types of tumor growth originate from a single cell. The tumors of the glia, on the contrary, are not single but multi-centric. Other tumors grow into the surrounding tissue and displace it. The glia, however, infiltrates, and the surrounding tissue takes on the character of the new growth. The glioma is also the most diffuse of tumors. One cannot define its limits with the eye. The glioma never metastasizes. It evidently does not find capacity for growth elsewhere. Further, the glioma does not invade blood vessels, so that there is no method for the cells to escape from their original site.

The speaker showed a large series of slides, of both gross and microscopic specimens. A large number of the specimens had been furnished the speaker by Doctor Harvey Cushing.

C. F. Hoover, in opening the discussion, said that he had registered no great triumphs, either diagnostically or therapeutically, over gliomas.

G. W. Crile pointed out that surgical treatment of gliomas represented the most dangerous and discouraging field of brain surgery.

J. E. Tuckerman asked the speaker what method he had used to secure perfect photographs of gross specimens.

W. T. Councilman, in reply, said that some of the specimens had been photographed immersed in water, others covered with alcohol. Although hopeless for ultimate cure, the amount of relief gained from operation by patients with gliomas makes such procedure extremely valuable.

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## OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SECTION

The eighty-third regular meeting of the Ophthalmological and Oto-Laryngological Section was called to order February 25, 1916, at 8:35 P.M. In the absence of Doctor Wm. B. Chamberlin, Doctor J. M. Ingersoll took the chair.

The minutes of the last meeting were read and approved.

Doctor W. H. Tuckerman presented a patient upon whom a flap operation from the forehead after Sir Watson Ceyne's method had been performed after failure of implantation of bone from the external surface of the tibia. The result was a marked improvement over the patient's previous condition, as shown by photographs, but left much to be desired. Doctor Tuckerman called attention to the extreme value of having photographs of the original condition so that one has always positive evidence of the improvement, as patients are often apt to forget original conditions and be disappointed with the measure of success able to be obtained.

Doctor Tuckerman also presented a patient, a young man with a throat badly scarred with inherited lues. The epiglottis is half gone, the left vocal cord is a thin strand of tissue representing the free margin of the cord with its normal attachments and approximating to the right cord in normal manner during phonation. The rest of the cord is destroyed, leaving a fistula for the air to escape laterally to the remnant of the cord. The condition produced only a mild hoarseness such as is common in chronic laryngitis.

Doctor J. M. Ingersoll and Doctor Battles, of Ashtabula, presented a boy who, following an injury from baseball of the supraorbital ridge at the inner canthus on the left side, developed an osteoma at that point. On account of the displacement of the orbit Doctor Ingersoll removed the tumor and considered at the time that he had got beyond the growth. Since then the boy has received an injury of the outer canthus on the same side and has developed an osteoma at this point, and the growth at the

inner angle has also shown renewed activity.

The program of the evening was then opened by Doctor S. H. Large, on "Sinus Diseases." He illustrated his talk with a number of X-ray plates and called attention to the fact that too much reliance should not be given the plates. He makes use of autogenous vaccines in all cases. In his radical operative work, the operations on the antrum have been uniformly successful. The ethmoid cells have been the most troublesome in healing.

Doctor W. J. Abbott's paper on "Intranasal Treatment of Sinus Diseases" followed. His experience was that he had had more trouble with the frontal than with the ethmoid. He strongly favored Grayson's burr for opening and draining of the sphenoid sinus and Mosher's curette for opening and draining the frontal sinus. For the antrum he preferred the preturbinal as advocated by Canfield and Mosher.

Doctor J. M. Ingersoll presented an interesting paper on the comparative anatomy of the sinuses.

### COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine held Tuesday, March 14, 1916, at the University Club, the following members were present: the President, Doctor Bruner, in the chair; Doctors Sanford, Weir, Follansbee, Bernstein, Ford, Moorehouse, Houck, Thomas, Perkins, Karsner, Taylor, Updegraff, J. E. Tuckerman, and by invitation, Doctor Hanzlik.

The minutes of the last meeting were read and approved.

On motion the following were elected to membership:

*Active*—E. F. Freedman, M. D.

*Non-resident*—Carl R. Steinke, M. D., Akron, O.

On motion the following were given letters of transfer to the Wayne County Medical Society, Detroit, Mich.:

T. K. Gruber, M. D.; B. J. Sawicki, M. D.

On motion the following resignations were accepted:

J. S. Wood, M. D.; L. B. Lemon, M. D. (removed from city); W. L. Lemon, M. D.

On motion the names of the following applicants for membership were ordered published:

For active membership: C. S. Bogart, M. D.; S. H. Franks, M. D.; D. Handmacher, M. D.

For non-resident membership: A. M. Painter, M. D., Youngstown, O.; Carl W. Sawyer, M. D., Marion, O.

A letter from the Secretary of the Council of the Ohio State Medical Association was read stating as a probable ruling that a member of the Ohio State Medical Association must be accredited to the county in which he has legal residence.

The following were appointed delegates and alternates to the Ohio State Medical Association at its next meeting in May:

*Delegates*—Fred C. Herrick, M. D.; A. W. Lueke, M. D.; J. J. R. Macleod, M. D.; R. K. Updegraff, M. D.; H. T. Karsner, M. D.; J. E. Tuckerman, M. D.

*Alternates*—J. G. Spenser, M. D.; Myron Metzenbaum, M. D.; B. L. Spitzig, M. D.; C. W. Stone, M. D.; D. S. Hanson, M. D.; Frederick J. Wood, M. D.

On motion the bond of the Secretary-Treasurer was ordered renewed, by vote of the Trustees present.

A letter from Doctor R. D. Fry was received asking whether a member could not be relieved from paying for the two medical journals. On motion the Council ruled that such an exemption could not be allowed, being outside the power of the local society so far as the *Ohio State Med-*



*ical Journal* was concerned and contrary to an agreement already entered into for the year 1916 with *The Cleveland Medical Journal*.

Doctor Sanford reported for the Civic Committee that he had assumed the chairmanship of the sub-committee on indemnity and defense insurance made vacant by the death of Doctor Storey, and had taken over the trusteeship of the blanket medical defense policy issued by the Aetna Life Insurance Co.

The substance of the following communication from the Experimental Medicine Section was stated by Doctor Hanzlik, as the Secretary did not have the original at hand:

"The following is a motion extracted from the meeting of February 11 of the Experimental Medicine Section:

"In view of the possible resignation of certain members, and the difficulty of recruiting new ones, this Section protests to the Council of the Academy against the ten dollar annual fee."

After a full and informal discussion, Doctor Karsner moved that the Council instruct the delegates to the next meeting of the Ohio State Medical Association to endeavor to bring about a reduction of the State dues. Motion lost.

Doctor Karsner then moved that a memorandum be sent by the Secretary to the Council from the Fifth District, Doctor C. E. Ford, to the effect that the Council of the Academy believes it desirable to make an exception so that the dues to the State Association may be reduced to those members not desiring to receive the *State Journal* or to avail themselves of the proposed medical defense. Motion seconded by Doctor Perkins. Motion lost.

The Council then took up the report of the special committee on revision of the constitution and by-laws of the Academy.

After a consideration of a portion of the report it was moved and seconded that further consideration lie over and be made the special order of business at the next meeting of the Council.

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**Typhoid Following Typhoid Vaccination.**—"Considerable publicity has been given to the fact that several cases of typhoid fever occurred this fall among students at Delaware College, Newark, Del., shortly after they had received protective inoculation against typhoid fever. On inquiry of the President of Delaware College we are informed that in 1915, 106 men and 22 women were inoculated. Three of the young men subsequently developed typhoid fever, one after the first inoculation, one after the second, and one after the third. Illness in the first case occurred in 'less than ten days after the inoculation'; illness in the second case, 'in less than ten days after the second inoculation,' and in the other, 'almost immediately after the third inoculation.' It is stated that all these young men came from localities in which there is or has been typhoid fever. From the facts as indicated, it appears possible that the infection may have been received shortly before or during the inoculation period. Exact dates as to day of onset and days of inoculation are not given, the source of the vaccine is not stated, and apparently no detailed investigation of probable sources of infection has been made. It is plain that instances of this sort are employed to discredit the practice of typhoid vaccination, and it is much to be wished that all such occurrences should be investigated and a careful statement of facts placed on record. Newspaper reports of such happenings which reach us from time to time," says *The Journal of the American Medical Association*, "and the experience recently described by Sawyer, show the need for all the information we can obtain regarding the practical application and value of antityphoid inoculation."

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## BOOK REVIEWS

**Surgical Operations With Local Anaesthesia.** Second Edition. By Arthur E. Hertzler, A. M., M. D., Ph. D., F. A. C. S., Surgeon to the Halstead Hospital, Kansas City, etc. The Surgery Publishing Co., New York, 1916. Price, \$3.00.

In the preface, the author tells us that the first edition of this book aimed merely to help the general practitioner in the performance of the simpler surgical procedures. As a result of the demand for a more extensive treatment of the subject, the present edition has been enlarged to include practically all the major operations that a skilled surgeon can perform under local anaesthesia. The descriptions of the technique are most excellent, and the illustrations are numerous and valuable. The scientific attention to anatomical exactness in both text and figures is most admirable. One is especially pleased with the constant reiteration of the need for gentleness while operating, and the dangers of unnecessary traumatization of the tissues.

There is certainly no lack of range to the operations the author accomplishes under local anaesthesia. At times, as when watching a magician, we can only gasp and throw up our hands in wonder as we read of hysterectomies, breast amputations, gall bladder operations, or operations upon the mediastinum being painlessly performed under the benign effect of a few syringefuls of fluid. Only rarely does an admission appear that there are any limits to the art, but once Doctor Hertzler does grant that, "Hysterectomy under local is a difficult operation at best!"

We do not like to see hysterectomy recommended as the best method of exploring the interior of the uterus (p. 245).

This is a book that a surgeon must own if it is to be of any value to him. A casual reading of a "library" copy will be of little benefit. The pictures and the text are worthy of constant and careful study in connection with each case that comes up in the practice of any surgeon who intends to make himself a master of local anaesthesia. J. T. S., Jr.

**"Speaking of Operations."** By Irvin S. Cobb—64 pp. with illustrations. Geo. H. Doran Co., New York. Price, cloth, 50 cents.

This book contains a very funny account of a "painful" experience. "The king of all topics of conversation is operations," says Mr. Cobb, as he proceeds with rare wit and good humor to tell what the doctors did to him and what he thought of the doctors while they were doing it—from the time the doctors took his "temperature and \$15.00," until "replete with expensive stitches" he again mingled with fellow beings and giving the grand hailing sign of the order is able to say, "Speaking of operations—" "Believe me, it's the life," says Mr. Cobb.

**"Dinner Tendered to Irvin S. Cobb."** George H. Doran Company, New York.

The after-dinner toasts are combined in this book and give an interesting account of a pleasant dinner. N. E. F.

**Candy Medication.** By Bernard Fantus, M. D., Professor of Pharmacology and Therapeutics, College of Medicine, University of Illinois, Chicago. C. V. Mosby Company, St. Louis, 1915. Price, \$1.00.

Fantus has worked out a suitable candy base and a series of formulae incorporating the more important drugs used in the therapy of children. The volume should be a guide in the manufacture of "candy medicines." The production of various therapeutic agents in candy form would make the taking of medicine a pleasure for children. "Candy Medication" should be of great value to pharmacists and physicians. H. S. F.

**Practice of Obstetrics.** By Edwin Bradford Cragin, A. B., A. M., M. D., F. A. C. S., Professor Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University, New York. Eight hundred and sixty pages, with 499 engravings and 13 plates. Lea & Febiger, New York, 1916. Price, \$6.00.

This volume from Doctor Cragin's pen has long been expected and



the reviewer knows the author has spared neither time or expense in his efforts to make this writing a work of value. In general the text is the detailed technique and statistics from the Sloane Hospital for Women, which is the teaching organ for gynecology and obstetrics for Columbia University. Doctor Cragin's protracted service as medical head of this institution in which over 2,500 deliveries occur annually, his broad professional experience in both obstetrics and gynecology and his experience as a teacher, should certainly qualify him to give us a volume of material value.

The work is divided into six parts, anatomy and embryology, physiological pregnancy and its management, pathological pregnancy, pathological labor, obstetric surgery, and pathological puerperium. These parts are each sub-divided into several chapters.

The numerous illustrations consisting of original drawings, microphotographs, half-tones, etc., add much to the already clear text, but are not so well done in some instances as might be wished for, this comment applying particularly to the illustrations on embryological and placental subjects.

The author recommends allowing but 20 minutes for the third stage of labour (page 343), and if not completed spontaneously within this time, he advises Credé expression.

The reviewer believes that if separation has not taken place, it is better to wait for as long as two hours for spontaneous separation. The author does not differentiate between the typical Credé expression, which includes separation, and expulsion of the placenta from the lower uterine segment and vagina, where it lies after spontaneous separation. It is quite permissible, in the opinion of the reviewer, to express the placenta and membranes from the vagina by gentle downward pressure on the fundus which rises in the abdomen after separation of the placenta occurs. It has been found that by following this suggestion there is less often any partial retention of the secundaries. During the third stage the fundus should merely be palpated at frequent intervals and not massaged, as this interferes with separation.

On page 339 is found an interesting table of comparative efficiency of the various antiseptics used in destroying the gonococcus and other organisms infecting the conjunctiva of the new-born.

From the reviewer's personal experience it can be stated that suppurative mastitis is too frequently seen at the Sloane Hospital. It would be difficult to say whether the infection is cryptogenetic or due to the routine handling of the breasts during early lactation (page 354), utilizing breast binders (which are often too tight) for support, massage and expression (which is sometimes traumatizing) for distended breasts, etc., instead of leaving the matter of early engorgement to nature, which gives such satisfactory results.

The chapter on lactation (page 379) contains much valuable information on infant feeding and preparation of modified milk, a convenience not usually found in a work on obstetrics.

Part III, page 417, dealing with pathological pregnancy, is most interesting and valuable. Doctor Cragin's views on pernicious vomiting are similar in most respects to those of Williams, who is convinced that knowledge of the nitrogen coefficient is of very material value. The results of both these authors warrants this belief. Doctor Cragin does not separate nephritic toxemia and eclampsia, although they seem to the reviewer to be pathological entities and are usually considered so. In this volume eclampsia is divided into a kidney and liver type, the former corresponding to the usual nephritic toxemia so often seen in patients suffering from chronic nephritis. The importance of not only frequent urine examinations, but also of frequent blood pressure readings and inter-

views and questioning of patients for premonitory symptoms of this condition, are admirably insisted upon:

It is gratifying to see one of Doctor Cragin's large experience, with his favorable statistics, recommend the conservative treatment of eclampsics, emptying the uterus without hesitation when indicated, but conservative in so doing, and reserving abdominal caesarean section only for primipara with a long rigid cervix. The same general statement holds good for placenta praevia in which a dilating bag is used extra-ovular whenever the cervix is sufficiently dilated to permit its introduction. The mortality both maternal and foetal warrant this treatment in the majority of cases. Abdominal hysterotomy is advisable only when bags cannot be used or there is some unusual circumstance.

There is a long and valuable chapter on ectopic gestation, its diagnosis and treatment. Pyelitis of pregnancy is also given its warranted prominence.

In the chapter on forceps the illustrations of Tarnier's axis traction instrument show the instrument incorrectly assembled. The short bars from the blades to the traction bar lock are each in the wrong blade, so that when they are attached to the traction bar the latter is inverted and the instrument unfit for axis traction application.

The statistics of the forceps operation are of value. In 10,000 consecutive deliveries at the Sloane Hospital, forceps were done 2,468 times, 12.3 per cent, whereas the author resorted to forceps in 22.6 per cent of his last 500 private cases. Of the hospital cases, low forceps constitute 8.9 per cent, medium forceps 2.3 per cent, and high forceps 1.09 per cent of the total deliveries, with a maternal mortality of 1.2 per cent compared to a maternal mortality of 1.09 per cent for all cases entering the hospital. The foetal mortality for low forceps was 10 per cent, for medium forceps 19.2 per cent, and 38.5 per cent for high forceps. The total mortality of all births is 7 per cent, which subtracted from the forcep mortalities gives mortality due to forceps. Here again is strong evidence to discard the use of high forceps.

Lack of space forbids further comment, but it can be said that the volume is an accurate account of the technique with results obtained by the author in the Sloane Hospital. Insufficient reference to the literature and the absence of opinions and methods of others detract from the volume's value as a reference book. Medical students will find the volume valuable.

W. D. F.

**The Treatment of Gonorrhoea.** By William J. Robinson, M.D., Chief of the Department of Genito-Urinary Diseases and Dermatology, Bronx Hospital, etc. Critic and Guide Co., New York, 1915. Price, \$2.50.

The volume is devoted to the treatment of gonorrhoea in both male and female, along with the complications of the disease which are frequently encountered.

The text is entirely too complicated for the layman, and the reader believes will make but slight appeal to the profession. The injection of numerous words in quotation, picked from the modern slang, particularly of the genito-urinary patient, detracts from the dignity of a medical text. The author uses the first person singular more often than necessary. The frequently occurring Latin idioms add nothing to the text and had better be omitted.

Many of the prescriptions that are given are of the shot-gun variety of which our modern therapeutics disapprove. The author apparently does not think very highly of hexamethylenamin (page 44), and though recommending that it be used in conjunction with acid sodium phosphate, he approves of administering these drugs combined. Much better results will follow the ingestion of these drugs several hours apart, as hexamethylenamin is rapidly decomposed by acid sodium phosphate.

The reviewer cannot agree that "In the vast majority of cases of respectable married women the disease (gonorrhoea) pursues such a sub-



acute course" (page 219). Chronic gonorrhoea in the male, which is claimed to be the cause of this light infection, has in the reviewer's experience more often given rise to virulent acute infection of the wife. Neither can the reviewer agree that, "It usually takes a month for a salpingitis to develop as the result of gonorrhoeal infection" (page 220), or that under any circumstance is bacteriological examination of vaginal discharge unnecessary (page 221).

**The Obstetrical Quiz for Nurses.** A Monograph on Obstetrics for the Graduate and the Undergraduate Nurse in the Lying-in-Room. By Hilda Elizabeth Carlson. Rebman Company, New York, 1915. Price, \$1.50.

This compend of some 300 pages has been prepared chiefly for the use of nurses and will be found useful in general reviews on the subject.

The volume is divided into 20 chapters dealing with the various phases of pregnancy, labour, puerperium, complications, emergency treatment and general care of the patient. The care of normal and premature infants is considered, and there are chapters on dietary and the preparation of antiseptic solutions.

The text is in quiz compend form, the questions appearing in heavy type with the answer following immediately. These answers are rational and include the modern views in obstetrics as well as common sense.

W. D. F.

**The Practical Medicine Series, Vol. X, 1915; Nervous and Mental Diseases.** By Hugh T. Patrick, M. D., Professor of Neurology in the Chicago Policlinic, etc., and Peter Bassoe, M. D., Assistant Professor of Nervous and Mental Disease, Rush Medical College. The Year Book Publishers, Chicago, Price, \$1.35.

The purpose of the various volumes of *The Practical Medicine Series*, which are issued yearly, is to give reviews of literature of the past year. To the physicians, especially those in general practice, who are unable to read regularly current literature, these volumes are especially valuable as a source from which to gain a general knowledge of the trend of medical progress. To those in special lines who are acquainted with the current writings, the volumes afford an interesting means of refreshing the memory on the more important advances that have been made.

The authors, however, do not simply give dull reviews but interperse comments and criticisms which are especially commendable. An example may be cited in connection with the subject of epilepsy: "That the problem of the etiology and cure of epilepsy is still one to be solved is shown by the large amount of *speculation* and *guesswork*, as well as the less conspicuous but more promising serious investigation by men in various fields of medical research, all of whom are striving to achieve the immortal fame which will come to him who solves this problem of centuries.

As examples of the widely differing ideas concerning epilepsy and its cure which continue to be offered to us, we shall mention the following": A review is then given of the work of Charles A. L. Reed, who dogmatically states: "Epilepsy is caused by a specific infection, probably a bacillus of the gas-forming series. The infection is located in the intestinal canal. . . . The infection seems to be made effective primarily through constipation of mechanical origin." The authors then write: "Just as Reed was gradually led to a new conception of epilepsy in perfecting his methods of intestinal surgery, so the distinguished New York neurologist, L. Pierce Clark, passed through a similar mental experience, but in entirely different channels, as he was perfecting himself in psychoanalysis." Clark is quoted at some length and concludes that the epileptic attack signifies the "unconscious strivings" of such epileptic "to return to the Nirvana of the uterine life, a state of perfect *Allmacht*." The reader is permitted the privilege of judging whether to consider the

conclusions of these men as "speculation and guesswork" or as "serious investigation."

The reviews on neuroses of the war, vagotonia, Raynaud's disease, the basal ganglia, disease of the sympathetic and spinal ganglia, and manic-depressive insanity, are especially interesting. T. S. K.

**Modern Treatment of Gonorrhoea in the Male.** Twelve Lectures by Doctor P. Asch (Strassburgh). Translated and Annotated by F. E. Gardner, M.D. Illustrated pp. 104. Published 1915 by Rebman Company, New York.

Doctor Asch prefaces his book with the statement, "My purpose is to draw attention, in unpretentious lecture and contributions, to those methods of treatment of acute and chronic gonorrhoea and of their complications which have proved most reliable in my 15 years of practice as a specialist." The clear, concise outline may well form the basis of treatment when intelligently followed. The Janet method is the favored one.

The description of degenerated forms of gonococci includes such forms that any gram-negative organism in urethral secretion might be named gonococcus. Therefore, according to this author, the diagnosis cannot rest on the bacteriological findings. The technic of anterior and posterior endoscopy together with treatment is given due attention. 'Tis well this is so, because this is a part of examination and treatment that is now being extensively employed.

"Illustrated" in this book refers to the drawings of instruments, therefore, neither an embellishment to the book nor an aid to the text.

The translator has seen fit to add annotations which merely remind the reader of methods other than those of Asch. A. S.

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## ACKNOWLEDGMENTS

**A Handbook of Infant Feeding.** By Lawrence T. Royster, M.D., Attending Physician Bonney Home for Girls and Foundling Ward of the Norfolk Society for the Prevention of Cruelty to Children; Physician-in-Charge of King's Daughters' Visiting Nurse Clinic for Sick Babies. Illustrated. C. V. Mosby Company, St. Louis, 1916. Price, \$1.25.

**New and Nonofficial Remedies, 1916.** Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association Prior to January 1, 1916. American Medical Association, 535 North Dearborn street, Chicago, Ill. Price, \$1.00.

**Surgical Operations With Local Anesthesia.** By Arthur E. Hertzler, A. M., M. D., Ph. D., F. A. C. S., Surgeon to the Halsted Hospital, Swedish Hospital, General Hospital, Kansas City, Mo. Second Edition, 327 pages; 173 illustrations; cloth bound. Surgery Publishing Company, New York. Price, cloth, \$3.00.

**Venereal Diseases.** A Manual for Students and Practitioners. By James R. Hayden, M.D., F. A. C. S., Professor of Urology at the College of Physicians and Surgeons, Columbia University, New York; Visiting Genito-Urinary Surgeon to Bellevue Hospital, etc. 12 mo., 365 pages, with 133 illustrations. Lea & Febiger, Philadelphia and New York, 1916. Price, cloth, \$2.50 net.

**Candy Medication.** By Bernard Faustus, M.D., Professor of Pharmacology and Therapeutics, College of Medicine, University of Illinois, Chicago. C. V. Mosby Company, St. Louis, 1915. Price, \$1.00.

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### MEDICAL NEWS

**Preliminary Program American Proctologic Society.**—Eighteenth annual meeting, Detroit, Mich., June 12 and 13, 1916; headquarters and place of meeting, Hotel Statler. The profession is cordially invited to attend all meetings.

Commencing June 12, 1916: Executive council meets at 11 A. M.; first regular session at 2 P. M.; annual address of the president. Subject: "Why Proctology Has Been Made a Specialty," T. Chittenden Hill, Boston, Mass.

#### Papers

1. A Review of Proctologic Literature for 1915. Samuel T. Earle, Baltimore, Md.
2. Post-Operative Treatment in Rectal Surgery. Wm. H. Stauffer, St. Louis, Mo.
3. Ano-rectal Injuries, Samuel G. Gant, New York City, N. Y.
4. Some Observations on Hernia in Relation to Intestinal Stasis. Wm. M. Beach, Pittsburg, Pa.
5. Intestinal Symptoms Due to Achylia Gastrica. Alois B. Graham, Indianapolis, Ind.
6. Non-Specific Ulceration of the Rectum and Anus, with Report of a Case of Anal Herpes Zoster. Lewis H. Adler, Jr., Philadelphia, Pa.
7. Malignant Transformation of Benign Growths. Frank C. Yeomans, New York City, N. Y.
8. Acute Angulation and Flexure of the Signoid as a Causative Factor in Epilepsy; Report of Nine New Cases with Four Recoveries. Wm. H. Axtell, Bellingham, Wash.
9. The Vaccine Treatment of Pruritis Ani. W. H. Kiger, Los Angeles, Cal.
10. Report of Experience with the Vaccine Treatment of Puritus Ani. Louis J. Hirschman, Detroit, Mich.
11. Posture as an Etiologic Factor in Splanchnoptosis. Rolla Camden, Parkersburg, W. Va.
12. Photography for Record and Teaching; Lantern Slide Demonstrations. Collier F. Martin, Philadelphia, Pa.
13. The Present Status of Operations for Carcinoma of the Rectum and Lower Third of the Sigmoid. Samuel T. Earle, Baltimore, Md.
14. Observations on Fissure of the Anus. Rollin H. Barnes, St. Louis, Mo.
15. The Treatment of Hemorrhoids by a New Method. E. H. Terrell, Richmond, Va.
16. The Relation of Colonic Disease to the Kinetic System. James A. Macmillan, Detroit, Mich.
17. The Consideration of Rectal and Colonic Disease in Life Insurance Examinations. Alfred J. Zobel, San Francisco, Cal.
18. Spasmodic Stricture of the Rectum. Louis J. Krouse, Cincinnati, Ohio.
19. Some Important Pathological Conditions Found About the Rectal Outlet. Lantern Slide Demonstration. Granville S. Hanes, Louisville, Ky.
20. The Relation of the Roentgenologist to the Proctologist. Walter I. Le Fevre, Cleveland, Ohio.
21. Syphilis of the Rectum. G. Milton Linthicum, Baltimore, Md.
22. Position for Sigmoidoscopic Work. Donly C. Hawley, Burlington, Vt.
23. Sixth Report of the Treatment of Pruritus Ani by Autogenous Vaccines. Dwight H. Murray Syracuse, N. Y.
24. Gangrenous Hemorrhoids; Reports of Cases. John J. Jelks, Memphis, Tenn.

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**United States Civil Service Examination—Chief Statistician for Vital Statistics (Male), \$3,000.—April 25, 1916.**—The United States Civil Service Commission announces an open competitive examination for Chief Statistician for Vital Statistics, for men only. From the eligibles resulting from this examination certification will be made to fill a vacancy in this position in the Bureau of the Census, Department of Commerce, Washington, D. C., at a salary of \$3,000 a year, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The Chief Statistician for Vital Statistics is the administrative and statistical head and has full charge of the work of the Division of Vital Statistics. He supervises the collection of transcripts of certificates of births and deaths, the tabulation and compilation of the statistical items on



these transcripts, and the outlining and presenting of these statistics in the form of annual reports; he aids in securing enactments of efficient laws for the registration of births and deaths, both by correspondence and, if necessary, by appearing before the State Legislature and committees thereof; he supervises the investigation of the completeness of the registration of deaths in cities and States which are not now in the registration area but which have requested admission thereto, and makes such recommendations to the Director of the Census in regard to their admission as the results of the investigations justify; he is expected to attend the meetings and conventions of medical and statistical bodies, such as the American Medical Association, the American Public Health Association, and the American Statistical Association.

Competitors will not be assembled for examination but will be rated on the following subjects, which will have the relative weights indicated:

Subjects	Weights
1. Practical tests in statistics .....	20
2. Thesis .....	20
3. Education .....	25
4. Experience .....	35
Total .....	100

Graduation from a recognized medical school and at least four years' experience in charge of the vital statistics of a city or a State or in a position of similar importance requiring expert knowledge of vital statistics are prerequisites for consideration for this position.

Special credit will be given for experience in the practice of medicine and in positions of an executive character.

In connection with the first subject, the applicant will be provided with certain statistical data upon which he will be required to submit a statistical criticism, in accordance with instructions furnished.

In connection with the second subject, the applicant will be required to submit a thesis of approximately 2,000 words, either typewritten or in handwriting, on one of a number of subjects given.

Statements as to education, experience, and fitness are accepted subject to verification.

Applicants must have reached their thirtieth but not their fiftieth birthday on the date of the examination.

Under an act of Congress applicants for this position must have been actually domiciled in the State or Territory in which they reside for at least one year previous to the date of the examination.

This examination is open to all men who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for Form 1312, stating the title of the examination for which the form is desired, to the United States Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Post Office, Boston, Mass., Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Cal.; Customhouse, New York, N. Y., New Orleans, La., Honolulu, Hawaii; Old Customhouse, St. Louis, Mo.; Administration Building, Balboa Heights, Canal Zone; or to the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R. Applications should be properly executed, excluding the medical certificate, but including the county officer's certificate, to which a 10-cent internal revenue stamp must be attached, and filed with the Commission at Washington prior to the hour of closing business on April 25, 1916. Those meeting the preliminary requirements, as shown in connection with their applications, will be furnished with a special form and material for Subjects 1 and 2, which must be submitted to the Commission prior to the hour of closing business on May 16, 1916. The exact title of the examination as given at the head of this announcement should be stated in the application form.

# The Cleveland Medical Journal

Vol. XV

APRIL, 1916

No. 4

## THE TREATMENT OF SYPHILIS DURING THE FIRST SIX MONTHS AFTER INFECTION

By WILLIAM THOMAS CORLETT, M. D., Senior Professor of Dermatology, Western Reserve University; Fellow of the Royal Society of Medicine.

The pleasant duty assigned me in this symposium on syphilis is rendered so from the thought that more may be accomplished in eradicating the diseases from the system during this period than can be done in any other stage of the infection.

From clinical observation supplemented by recent laboratory findings, we are now able to understand better than ever before the mode of invasion and subsequent development of the specific organism whose destruction before irreparable damage to important structures takes place, early treatment endeavors to accomplish.

From these dual sources we are further able to affirm, that taken sufficiently early the *spirochaeta pallida* may be destroyed before general or systemic infection occurs. \*

In 1873 Neumann excised chancres at an early stage without subsequent manifestations of syphilis occurring. Other methods of this early destruction have since been practiced. The difficulty of submitting patients to this early treatment, together with the uncertainty, until during the past few years, of making a diagnosis sufficiently early, has robbed this abortive treatment of syphilis of much credit to which it may justly lay claim.

The experiments of Roux, confirmed by Neisser, on anthropoid apes, demonstrated that calomel applied while the *spirochaetae* were still confined to the initial lesion, was followed by a disappearance of further development of the organisms. In my own work it has been demonstrated that, after four months' observation, the "fat spark" from an X-ray or high frequency machine may accomplish the same result. As we become better acquainted with the life history of the *spirochaeta* doubtless other and better means of its destruction will be forthcoming. It is,



unfortunately, only in the exceptional case that the abortive treatment as thus outlined can be used. By far the greatest number apply for treatment after systemic infection has taken place, when local destruction avails but little if anything at all. When doubt exists as to general infection, once the spirochaeta has been seen by the dark field or other illuminator, the only safe way is to resort at once to systemic treatment.

In the history of medicine it is interesting to note how the pendulum swings to the extreme limits of its arc, how custom—one might almost say fashion—varies during a given period of time. In like manner the treatment of syphilis offers no exception to this cyclic influence. The essential medicinal substances used today are the same that have been used and extolled for centuries. Mercury, iodine, arsenic and antimony have been utilized in the treatment of syphilis, or what at one time were supposed to be its sequelae.

Clinical acumen has long since demonstrated that increased results are obtained when these substances are introduced directly into the tissues or more recently into the blood-stream. Synthetic chemistry has met the indication by modifying arsenic into the chemical formula of  $C^{12} H^{12} N^2 O^2 AS^2 - 2HCL + 2H^2O$ . This product known as salvarsan may with safety be introduced directly into the circulation, thus producing more rapid and decided action than was heretofore obtained. Arsenic thus administered may also be given in larger doses than was possible before Ehrlich's labors gave us the above product. This new preparation of arsenic in the treatment of syphilis has of late, with good reason, supplanted the Donovan's solution of our fathers. Mercury has not yet undergone this chemical transformation and antimony remains in the limbo of an almost forgotten past. It doubtless will be recalled to life as recent employment in the treatment of Leishmaniosis seems to indicate; just as arsenic in the form of atoxyl, as a spirillicide in fowl spirillosis and with trypanosomes, particularly in those of sleeping sickness, led to its wide-spread use in the spirillosis of syphilis. Iodine has long since enjoyed a reputation in the treatment of syphilis, but its clinical usefulness places its therapeutic indication late in the course of the disease. Furthermore, its exact mode of action has not yet been determined.

It is with the new use of old drugs rather than with new drugs that the therapeutic advance in the management of syphilis

is due. This in turn is dependent on the discovery of the *trepone-ma pallida* as the specific cause of the disease, and the early treatment now advocated is largely the result of our understanding of the life history of this organism. Formerly, the time now considered most vital in its eradication, that is as soon as possible after the initial sore appears and the spirochaetae can be made out, was almost wholly disregarded, or wasted in administering iron or other irrelevant drugs to better prepare the system it was thought, for the subsequent syphilitic invasion. We now know, what astute clinicians had long since surmised, that as soon as the spirochaetae become acclimated to their new environment, the so-called latent stage after infection, they develop and multiply, which gives rise to the chancre. From this focus they pass into the lymph channels and general blood stream, when, a slight rise of temperature, transitory pains and other symptoms of malaise, announce that general infection has taken place. At this time, wherever the smallest arterioles carry the blood, there may be found these specific organisms, or at least their by-products. The first object of treatment, therefore, is to prevent this invasion, and if undertaken sufficiently early it can be done.

#### *Abortive Treatment.*

From the foregoing it may be seen that local abortive treatment is applicable to but a small number of cases. It is safer in all instances where the spirochaeta has been found to begin with salvarsan 0.4 gm. to a medium sized individual, intravenously, followed in six or eight days by a second dose of like strength. Formerly it was my custom to increase the dose, giving 0.5 gm. the second and 0.6 gm. the third time; but unless one is sure that all the arsenic is eliminated it is safer to limit the dose to 0.4 or at most not to exceed 0.5 gm. for persons of medium weight. Smaller or larger individuals should receive proportionately less or more of the drug.

In three cases in my own observation one administration has retarded all further symptoms up to the last observation, four years later. In two cases, two treatments have retarded all further manifestations of the disease up to the last inspection two years after administration. In these five cases the initial lesion had been noticed less than a week, and in all the spirochaeta was found by the dark field illuminator. Otherwise the lesions had not wholly assumed a characteristically Hunterian appearance. After the palpable involvement of the lymphatic glands, and particularly



after the appearance of a roseola, the abortive treatment resolves itself into the treatment next to be described.

### *The Early Intensive Treatment*

The early eruptive, or for convenience of description also called the second stage of syphilis, is the one most frequently encountered by the medical attendant. Here every structure of the body is thoroughly involved, particularly the tunica intima of the blood vessels and scarcely to a less extent the internal viscera and the cerebro-spinal structures. Here, again, time is of the greatest importance for the inflammatory changes set up by the presence of the spirochaeta lead to destruction and, in the main, constitute the sequelae of syphilis. Salvarsan, or its equivalent, is indicated in consequence of its rapid parasitotropic action and consequently is the best preparation to be used.

The dose depends on the body weight, and in general may be estimated at from 0.3 gm. to 0.6 gm. It is best given intravenously, and repeated at weekly or ten-day intervals, until from four to ten have been given. The frequency of administration as well as the size of the dose to be given depends on the reaction, if any, which follows each dose. Usually it is slight if at all noticeable. As to the number to be given, the Wassermann tests when made with sufficient skill and care be exercised, furnish the best means of determining this point. Should it become negative, it is well to discontinue salvarsan, and after an interval of two weeks, care being taken that the tubules of the kidney show no evidence of irritation, recourse may be had to intra-muscular injections of mercury.

If, on the contrary, the patient be first seen towards the end of the first six months after infection, and no intensive treatment has been followed, then the indication for salvarsan is not so clear. In the absence of any complication or involvement of important structures, such as the eye, salvarsan or mercury may be instituted and the need of pushing either to its full tolerance is less urgent. Whichever drug is selected, and again in this instance I prefer the former, the best results are obtained by a change before the spirochaetae become accustomed and to a certain degree immuned to the spirillicide. This may not occur for several months, but it is well to bear in mind. Mercury is slower in its action and may be continued over a longer period, although it is advisable to supplement its use by suitable periods of rest. The most potent form of mercury is the gray oil (oleum ciner-

eum) in which 1.5 gm., about two grains, of metallic mercury is injected weekly intra-muscularly for six weeks, followed by an interval of six weeks before the second course is given. Since many fatal results have been reported it should not be given except under the most careful attention to details. First it must be ascertained that no involvement of the tubules of the kidneys exists, and that the other eliminative organs are functioning properly. When there is evidence that the drug is not being absorbed, as when the therapeutic effect is arrested or none is obtained, its use should not be persisted in, but recourse should be had to one of the soluble salts of mercury. Again, on the first symptoms of ptyalism it should be stopped.

The technique is also of importance. Care must be taken to separate the cylinder of the syringe from the needle after its insertion, to see that a blood vessel has not been entered, and a fatal dose be thrown directly into the circulation. With these precautions carefully observed by one sufficiently skilled, a minimum amount of danger attends its use.

Calomel suspended in paraffin is likewise one of the strongest preparations of mercury thus employed. The dose is .065 gm. or one grain given intra-muscularly once a week for ten weeks, followed by a rest period of from four to six weeks. The objection to calomel is that it is more often painful than milder preparations, and fatal results have also been reported. The salicylate of mercury, from ten to twenty percent in paraffin of which from .6 to .9 cc. (ten to fifteen minims) are injected once a week for fifteen weeks, is the mildest form of the insoluble preparations of mercury. It is also efficient as the results obtained during a period of more than twenty years has demonstrated.

For ambulatory cases these insoluble forms of mercury are to be preferred because they are efficient, devoid of danger if properly given and the patient is relieved of making bi-weekly, or more frequent calls on his physician. On the other hand, the soluble salts of mercury are quickly absorbed when given hypo-dermically or intra-muscularly, are less painful and are less liable to be followed by painful nodules, which sometimes occur when the insoluble salts are used. In other words, less care and skill are required in their administration. When a quick action is required, and salvarsan is not selected, this is the method of choice, particularly in hospital practice. The prepara-



tions most commonly given are either the bichloride or the biniodide. The former is more generally given as in the following formula:

Hydrargyri bichloridi .....	.50
Sodii chloridi .....	.25
Aquae destillatae .....	30.

Of this from .09 to .12 cc. (fifteen to twenty minims) is injected two to three times a week.

From an extensive use I can recommend this:

Hydrargyri iodidi rubri .....	.06
Sodii iodidi .....	.06
Aquae destillatae .....	15.

Of which .6 cc. (ten minims) is injected as in the above. It is claimed that with the former an albuminate forms thus impeding its absorption, clinically I have observed no evidence of this, and it seems of equal value to the latter in therapeutic results.

With mercury, therefore the cycle is complete, and as in the time of which Antonius Chaumette<sup>1</sup> wrote, the intensive use of the drug is again employed, but fortunately with less dire results to the patient.

In the treatment during the first six months, the ingestion of anti-luetic drugs by the mouth has no place. Nor can we expect, excepting possibly in the abortive stage, to cure syphilis in this period of time, although more may be accomplished toward its elimination than during any twelve months later in its course, and I believe all of the complications and sequelae may during this time be reduced to a fractional percentage.

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<sup>1</sup>"Those who so strongly condemn the use of mercury have never used it in a proper manner \* \* \* I have always been satisfied with it, and have cured by this remedy a large number of persons affected with inveterate cases of pox."

*Tuibus morbi venerci curandi, methodus probatissima accessit*, 1560, Chapter V.

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## REPORT OF CASES FROM THE SURGICAL DIVISION OF THE CLEVELAND CITY HOSPITAL

By C. A. HAMANN, M. D., Cleveland

The following brief report and comments upon a few cases in the City Hospital is made in the hope that they may possess some features of interest.

*Ligation of the innominate artery for subclavian aneurism.* The patient, a colored man aged 25 years, entered the hospital complaining of pain in the right shoulder and arm. There was a pulsating tumor, 3 to 4 inches in diameter, occupying the infra-clavicular region, extending also above the clavicle; the pulsation was expansible in character, and upon auscultation a soft systolic bruit was heard. There was no oedema of the arm, though the fingers of the right hand were clubbed. Systolic pressure in right arm 110, left arm 130. Pulse in radials synchronous, but not symmetrical, the left being of greater volume than the right. Wassermann reaction plus.

It was quite apparent that the patient, was suffering from a large aneurism, involving the right axillary and subclavian arteries, and ligation of the innominate artery was regarded as the proper means of relieving him. Accordingly on May 5th, 1915, after resection of the inner third of the clavicle, in order to better expose the vessel, the innominate was tied with heavy braided silk; the common carotid was tied with No. 3, twenty-day cat-gut; the vessels seemed to be normal where the ligatures were applied. After the operation there was no cerebral disturbance and the arm remained warm. The wound healed per primam; the tumor became more firm in consistence and the pain and weakness in the arm greatly disappeared. When last seen, about two months after the operation, the patient expressed himself as being quite well; the tumor had decreased materially in size, was firm and did not pulsate.

Prof. G. N. Stewart (*Journ. of Exp. Med.*, Dec. 1, 1915, vol. XXII, p. 694-700) made repeated examinations of the blood-flow in the two arms and I quote from the following summary of the results: "The flow in the right hand eleven days after the operation was between one-fourth and one-fifth that in the left. Seventeen days after the operation the flow in the right hand was nearly one-third of the flow in the left. Twenty-four days



after the operation the flow in the right hand had increased to more than one-half of the left-hand flow. Thirty-one days after the operation the flow in the right hand was three-fifths of that in the left, without return as yet of any pulsation."

A second case of ligation of the innominate artery was that of a woman, age 59 years, who had an aneurism involving the beginning of the innominate, the right common carotid and subclavian arteries. The aneurysm was of the fusiform variety and the vessels were dilated to about three times their normal calibre.

The innominate was tied with a heavy silk ligature and the carotid with cat-gut.

The patient died on the fourth day from disturbance in the cerebral circulation, death being preceded by a left-sided hemiplegia.

The main cause of the high mortality after ligation of the innominate artery in pre-antiseptic times was secondary hemorrhage, due of course to infection. At the present time the main thing to be feared is disturbance in the cerebral circulation, death resulting from cerebral anaemia.

Reports of the operators indicate that gangrene of the arm does not occur, as the collateral circulation is sufficient to maintain the nutrition of the limb.

It seems to be generally agreed that the right common carotid should always be tied in addition to the innominate for the obvious reason that blood may not be allowed to enter the sac from above through the circle of Willis; for the same reason, partly, it has been suggested to tie the right vertebral artery.

In cases in which a proximal ligature cannot be applied to the innominate, owing to the extent of the aneurism, ligation of the common carotid and subclavian arteries beyond the aneurism has been shown to be a very successful operation; in one instance in which I had occasion to resort to this procedure recovery occurred.

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*Multiple cartilaginous exostoses.* The patient, a young man, 22 years of age, had a large number of partly osseous and partly cartilaginous outgrowths from many of his bones, as the accompanying illustration shows. The first enlargement was noticed when he was two years of age, at which time a growth appeared near the left wrist joint. At present there are multiple growths, involving all the long bones, as well as the scapulae, ribs and

pelvis; there are none visible or palpable on the facial or cranial bones or the vertebrae. The growths on the humeri and femora are the largest. The exostoses arise from the shafts of the bones as well as from the region of the epiphyses and from the flat bones as well, showing that their presence cannot be explained



alone by the assumption that there is irregularity and excessive development from the epiphyseal cartilage. The typical exostosis on the inner aspect of the lower end of the femur, which one sees occasionally, is believed to be due to an irregular and excessive growth from the epiphyseal cartilage, and is usually single.



In one or two instances of this disease recorded in the literature, careful investigation of the periosteum of numerous bones has shown that there were present in many localities minute areas of ossification, which were the beginnings of exostosis. In the great majority of recorded cases, the affection is hereditary; careful inquiry into the family history of our patient fails to reveal the occurrence of a similar condition in any of his relatives.

One of the larger growths on the femur was removed by Dr. Herrick and a report of the microscopic examination made made under the direction of Dr. Karsner as follows:

"Two blocks show essentially the same condition. As in Ehrenfried's case the resemblance to the histological picture of chondroma is striking. There is a thick limiting membrane, either perichondrium or perhaps periosteum, under which there is a mass of cartilage in which the lacunae are extremely numerous, somewhat irregular in size, but generally slightly larger than normal. At a distance of about 1 millimeter from the surface there is considerable deposition of calcium salts associated with extremely few osteo-clasts or osteo-blasts and without lamella formation. One small area shows calcification, small lacunae and lamellar arrangement but no associated agent cell formation, and resembles pathological heteroplastic bone formation rather than normal osteogenesis. There is present also fibrosed fatty marrow very irregularly disposed, in places reaching to within 0.5 millimeters of the surface, and the periosteum (or perichondrium) again being deeply placed below cartilage and calcified cartilage. The connective tissue is of young type (i. e., made up partly of cells of the morphology of fibroblasts) and is provided with frequent and sometimes fairly large capillaries. The small islands of bone formation are in relation to areas of marrow rather than any external osteo-genetic membrane, thus suggesting that the tissue is from the epiphysis. Some of the bone formation is in continuity with calcified cartilage as mentioned by Ehrenfried, although on the whole there is considerably less ossification in these specimens than in those of Ehrenfried. (Ehrenfried, A., Multiple Cartilaginous Exostoses—Hereditary Deforming Chondrodysplasia, *Jour. A. M. A.*, 1915, LXIV, 1642.)"

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*Spasmodic Wry-Neck.* The patient, a man 30 years of age, complained of jerking movements of the head which interfered with his work. At intervals his head was turned to the right and pulled backward. His neck was the seat of numerous scars, resulting from operations on the muscles and nerves, which had been done in attempts to relieve him of his distressing affection. We operated upon him several times, dividing practically all the muscles in the nape of the neck, and excising the posterior primary divisions of the three or four upper cervical nerves upon each side. Both spinal accessory nerves had also been excised. Little or no improvement has resulted from his numerous operations.

In this patient there was no cause for his affection discoverable; his general health was excellent; there was no other affection of the nervous system.

In one case of spasmodic wry-neck operated upon by the writer, the condition seemed to be due to the patient's occupation; he was a locomotive engineer, and was obliged to turn his head many times a day and look back at the cars he was switching; this practice was continued for several years, and, to the patient's mind, at least, was responsible for his disease.

In another instance, that of a saleswoman suffering from deafness of one ear, repeated turning of the head so as to direct the sound ear toward her customers was given as the cause of her spasmodic wry-neck.

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*Metastatic deposits in the pituitary body from carcinoma of the thyroid, causing bilateral ophthalmoplegia.* The patient, a man, aged 31 years, entered the hospital complaining of a swelling in the neck, hoarseness and dyspnoea and visual disturbance. The tumor was a large, irregular carcinoma of the thyroid gland, from which, at another hospital, a portion had been removed, evidently for diagnostic purposes.

The hoarseness and dyspnoea were of course due to the involvement of the recurrent laryngeal nerve and trachea.

Examination of the eyes by Doctor C. C. Stuart revealed the following facts: Each cornea was markedly anesthetic; each lens was swollen and had fine dust-like opacities; fundus practically normal; no exophthalmos; pupils dilated. Fields apparently contracted, and at times it was thought that there was a binasal hemianopsia. Movements of internal recti greatly lim-



ited but not entirely abolished. External recti paralyzed; upward and downward movements of the eye-ball abolished.

The nearly complete ophthalmoplegia, corneal anesthesia, and hemianopsia were the interesting features and naturally suggested a lesion in the pituitary body, enlargement of which by pressure upon the ocular nerves and the first division of the 5th and upon the chiasm could produce the ocular symptoms. In fact, the pituitary fossa was, anatomically, the only location in which the lesion could be, that produced the ocular disturbances which the patient presented.

Death took place from progressive exhaustion and respiratory obstruction.

The autopsy (by Doctor Burhans) revealed carcinoma of the thyroid with metastases to the lungs, liver, kidneys, and right adrenal. The sella turcica was filled with a tumor mass, about 5 c.m. in transverse diameter; seemingly continuous with and inseparable from the pituitary body; the mass pressed the 3rd, and 4th cranial nerves and the first division of the 5th outward and surrounded them; the cavernous sinuses could not be recognized. Part of the mass occupying the pituitary fossa was cystic. Histologically the growth was a cuboidal celled carcinoma. There were no other metastases in the cranial cavity.

As has been pointed out by Bland Sutton and others, metastatic deposits in the skull, manifesting themselves as pulsating, vascular tumors, occur sometimes, secondary to thyroid carcinoma; such metastatic growths are of course quite inoperable, as the writer can confirm from an experience in one case in which an attempt to remove the growth had to be desisted from, owing to the large size of the blood-vessels.

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*Ligation of internal iliac artery for pelvic aneurysm, which had caused sciatica.* The patient, a male, aged 51 years, was admitted to the hospital complaining of "sciatic rheumatism." His illness began five years ago with pain in the calf of the right leg, extending thence to the toes and hip. Many forms of treatment were tried, including stretching of the great sciatic nerve, all without benefit. The leg became partially paralyzed. Two years ago he lost control of the rectum and for one year he has had incontinence of urine; the left leg has also become very weak and the patient has been confined to bed since September, 1915, suffering greatly with pain; he has lost much in weight.

A detailed report of the neurological examination will not be given; suffice it to say that there was pain, chiefly in the area supplied by the right sacral plexus; atrophy of muscles; anesthesia of scrotum and buttocks, and hyperesthesia of lower portion of abdominal wall.

The right buttock was occupied by a tumor about three inches in diameter, which presented an expansile pulsation and upon auscultation a distinct bruit. Rectal examination revealed a pulsating mass, occupying a considerable portion of the pelvis.

An aneurysm of the internal iliac artery or one or more of its branches was diagnosed, though of course it was possible that the pulsating mass was a vascular neoplasm.

The internal iliac artery was ligated transperitoneally, and the pulsation in the tumor ceased; the artery itself was not dilated, the pulsating mass apparently lying below the main trunk of the vessel; perhaps it is the gluteal or sciatic artery that is the vessel involved.

Several days subsequent to the operation which was done on April 4th, 1916, the pulsation returned, though it is now not nearly as distinct as before and no bruit is audible. The patient's pain is less and his general condition has improved.

Though the return of the pulsation is disappointing and somewhat difficult to explain, inasmuch as the main arterial trunk supplying the affected locality was tied, the diagnosis of aneurysm is still adhered to; anastomosing channels from the opposite vessel may be responsible for the pulsation that now exists.

This case affords an illustration of one of the possible causes of "sciatica," and emphasizes the necessity of a careful search for pathological conditions in the pelvis where this symptom is encountered.

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## THE TREATMENT OF PERITONITIS

By GEORGE W. CRILE, F. A. C. S., Cleveland

The common cause of death in peritonitis as in any acute infection is exhaustion, this exhaustion being due to (a) the expenditure of energy in combatting the infection; (b) the destructive effects of the resulting acid by-products; (c) the diminished intake of food; and (d) insufficient sleep.

The last named factor often escapes notice, yet it is potent in its effect, for restoration from exhaustion is accomplished largely through sleep. Peritonitis is one of the most painful of diseases and during its acute phases sleep is rare and fitful.

The treatment of peritonitis therefore resolves itself into four principal phases: (a) diminishing the absorption of toxins; (b) diminishing the response to infection; (c) promoting the elimination of acid by-products; (d) securing sleep.

*Diminishing the absorption of toxins:* To diminish the absorption of toxins tension is relieved and drainage secured in the least harmful manner,—by operating under nitrous oxid and local anesthesia combined; by the Fowler posture; by the physiologic rest of the intestines.

*Diminishing the response to infection:* The body's response to infection is chemical and is initiated and continued by the brain. The intensity of the response, therefore, is controlled by controlling the brain itself and the one agent that can accomplish this end is opium. The clinician's knowledge of the value of opium is now supplemented by laboratory findings which demonstrate that opium measurably protects the brain, the adrenals and the liver against the damaging effects of toxins. (Fig. 1). The dosage of opium must be governed by the intensity of the infection. Alonzo Clark's original communications regarding the use of opium in peritonitis are most illuminating, and his dictum that the dose should be measured by its effect upon the respiratory rate is correct. As the opium is pushed the pulse and respiratory rates decrease and the temperature falls; and in the resultant narcosis the appearance of the patient misleads the superficial observer, for the relaxed facial muscles suggest a grave condition that does not exist.

In the state of opium narcosis metabolism is held practically at a standstill and little food is required—hence in this respect also the patient is conserved.

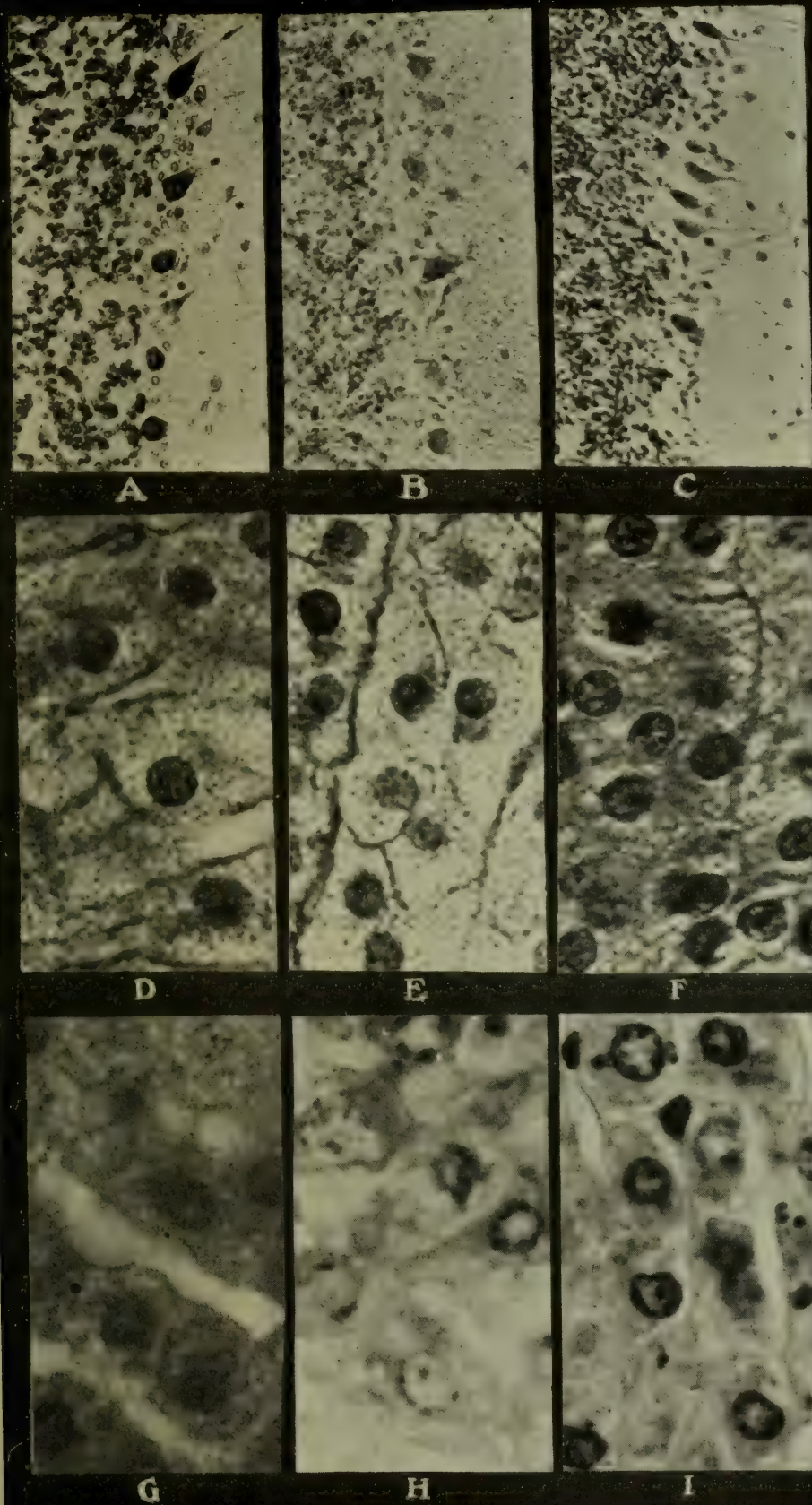


Fig. 1. THE PROTECTIVE EFFECT OF MORPHIN

- A—Section of the normal cerebellum of a rabbit.  
 B—Section of the cerebellum of a rabbit which had received an injection of diphtheria toxin.  
 C—Section of the cerebellum of a rabbit which had received injections of diphtheria toxin and of morphin.  
 D—Section of the normal adrenal of a rabbit.  
 E—Section of the adrenal of a rabbit which had received an injection of diphtheria toxin.  
 F—Section of the adrenal of a rabbit which had received injections of diphtheria toxin and of morphin.  
 G—Section of the normal liver of a rabbit.  
 H—Section of the liver of a rabbit which had received an injection of diphtheria toxin.  
 I—Section of the liver of a rabbit which had received injections of diphtheria toxin and of morphin.  
 (A, B, C, from photomicrographs X-310; D to I, from photomicrographs X-1640.)

Note that the histologic lesions in C, F and I are measurably less than in B, E and H.



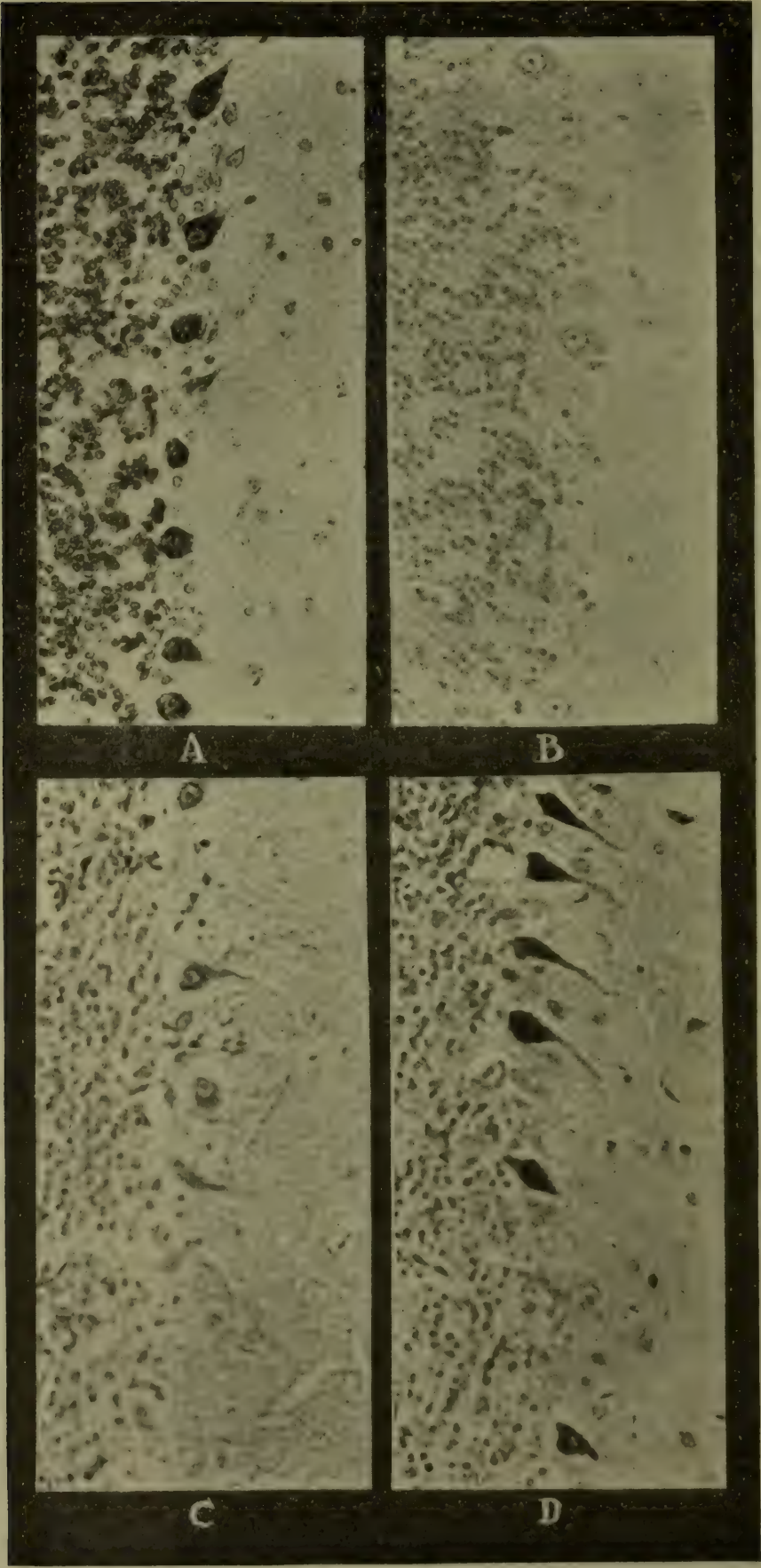


FIG. II. THE PROTECTIVE EFFECT OF SLEEP

A—Section of the normal cerebellum of a rabbit.  
B—Section of cerebellum of a rabbit which had received an injection of acid sodium phosphate, 26 hours after receiving a dose of acid sodium phosphate.  
C—Section of the cerebellum of a rabbit which was kept awake for 26 hours after receiving a dose of acid sodium phosphate, but allowed to sleep as it would for 26 hours after receiving a dose of acid sodium phosphate. Note the hyperchromatic Purkinje cells and compare with the hypochromatic and disintegrated Purkinje cells in B and C. (From photomicrographs X-310.)

In the Lakeside clinic we give morphin in one-sixth grain doses as is required to hold the respiratory rate down to from twelve to fifteen per minute.

*The elimination of acids:* The presence of increased acid by-products is evidenced by the following characteristic phenomena—increased respiration, thirst, increased pulse rate. The one great solvent of acid salts is water and water, therefore, is the medium of acid elimination. In peritonitis, not only is the natural intake of water decreased, but through vomiting and sweating the elimination of water is abnormally increased. Therefore, in an acute case in an otherwise normal adult 2,000 cc. of normal saline solution is given subcutaneously daily, and in addition a five per cent solution of sodium bicarbonate and glucose is given continuously by the Murphy drip. The effect of this forced administration of water, alkalies and sugar is clear and striking. By these measures the rate of acid elimination and neutralization is increased coincidentally with the diminution of the rate of energy transformation and the consequent diminution in the rate of formation of acid by-products which is accomplished by morphia.

*The promotion of sleep:* Morphia narcosis is a partial substitute for sleep but it does not equal sleep in its restorative effect. (Fig. 2). To take advantage, therefore, of nature's normal periods of rest and restoration in sleep, it is best to push morphin especially during the night and less during the day.

Thus we assemble the forces of control and the forces of restoration. The lesions of infection are becoming better known; the physical processes may be visualized; and consequently our control of peritonitis has increased greatly; and the death rate from peritonitis has been strikingly diminished.

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**THE EFFECT OF VITAMINES ON BODY GROWTH\***

By MARVIN D. SHIE, A. B., Cleveland.

Vitamines are substances of unknown composition which exist in very small amounts in the natural food stuffs and are necessary for growth and nutrition. The idea of vitamins and the facts which are now known concerning them have been largely the outcome of the modern study of the so-called "deficiency diseases";—such as osteomalacia, rickets, pellagra, beri-beri and scurvy.

Certain substances, though in the ordinary sense neither foods nor condiments, seem to be necessary for the maintenance of health. Under conditions in which these substances cannot be obtained for long periods of time deficiency diseases are likely to occur. Scurvy used to be the scourge of sailing ship in the days when fresh meat, and particularly fresh vegetables and fruits, were unobtainable during a long voyage. It has long been known that scurvy can be prevented by the use of lime or lemon juice in which citric and a trace of malic acids are combined, and it used to be thought that it was the organic vegetable acids which are the important thing. Recent researches have shown, however, that scurvy is only one of a group of diseases which are induced by deficiency in the food of certain substances, minute in amount, but essential for proper nutrition. These substances are termed vitamins. The addition of various legumes to the diet, or alcoholic extracts of these, will produce the same beneficial effect. Potatoes, carrots, fresh vegetables, lime and other fruit juices, also certain animal foods such as fresh milk, fresh meat and yolk of egg are all valuable, in addition to their nutritive constituents, for their content of vitamins.

The chemical nature of vitamins is but imperfectly known and there is no certainty that the bodies which exert the beneficial influence belong to the same chemical group. The best investigated representative of the vitamins is a basic substance separated by Funk from the polishings of rice. It is a general rule that the vitamins in the cereals, including wheat, maize, oats and barley are contained exclusively in the outer coats of the grains. The substance investigated by Funk could be split into four different constituents, each of which had a specific action but the effect of the original product could only be pro-

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\*Read before the Second Year Class in Physiology, Western Reserve University April 18, 1916.

duced by the collective action of all four parts. It is an organic base which is completely precipitated by phospho-tungstic acid, and by silver nitrate and baryta. It is partially precipitated by mercuric chlorid in alkaline solution in the presence of chlorine. The substance may be obtained by extraction of the polishings with acidulated alcohol. Many investigators claim that one of the active principles is phosphorus, but Funk seems to have evidence which refutes this.

Yeast is especially rich in vitamins. From 100,000 grams of yeast Funk prepared an extract from which he was ultimately able to isolate 2.5 gms. of vitamins, which crystallized with a melting point of 210 degrees.

The idea of the existence of accessory factors or specific requisites for growth has only of late taken a more concrete form. Recent workers have shown that besides the food-stuffs in the ordinary sense, there exist other constituents of our food which are of the very greatest importance for life and growth. It has been demonstrated that all attempts to grow animals on diets consisting of carefully purified isolated food stuffs, e. g., mixtures of casein, fat, sugar, starch and inorganic salts, sooner or later result in failure. Growth invariably ceases if the trials are not interrupted too early; and development is resumed as soon as suitable changes in the diet are instituted. Hopkins found that he could remedy the shortcomings of the "artificial" mixtures, which he fed to rats by the addition of milk in quantities far too small to have significance from the standpoint of their contribution to the energy of the ration. This effect must be due to the presence of a vitamin in the milk.

Osborne and Mendel found in what they termed "protein-free milk" a more satisfactory substitute for the less efficient salt mixtures, or the ash of milk. This product contains, besides lactose and inorganic salts, very small amounts of unknown compounds. All attempts to imitate the "protein-free milk" in an artificial way have given limited growth at best, though in occasional instances this has been surprising in extent. For such exceptional successes one may offer the hypothesis that the young organism possesses a store of the as yet unknown substance which suffices for some time in the absence of a suitable supply of the food intake. Sooner or later this becomes exhausted and nutritive equilibrium and growth cease. The organism does not synthesize the essential vitamin. Extensive experiments with



rats fed on rations made up of purified casein, dextrin and salt mixtures from reagents shows a marked difference in the ability of the individual animals to grow on such diets. Normal growth during a period of somewhat more than one hundred days can be attained only by exceptional individuals. Many fail entirely to grow; others grow at decidedly under normal rate. McCollum and Davis believe that they have in such a diet a means of measuring the vitality of individuals in a manner more satisfactory than any hitherto employed.

It does not follow directly however that the abnormality of diet in such instances of failure of growth as have been referred to, inevitably involve the lack of a *growth* factor. To have adequate growth there must be a satisfactory condition of maintenance before any gain in weight can be made. It might be supposed that the addition of a substance containing vitamine to the ineffective diet, e. g., protein-free milk, promotes growth solely because it furnishes something essential for normal metabolism, the basis upon which tissue construction and expansion are superimposed.

But this is not the whole story. Osborne and Mendel kept rats through two generations upon a diet consisting solely of whole milk powder, lard and starch. When they attempted to grow young animals upon a comparable diet of isolated milk-protein, protein-free milk, carbohydrates and lard, there was a suspension of growth, sometimes quite sudden and usually more gradual before adult size was reached. The essential difference between the adequate and the inadequate diet just described lies in the absence of the milk fat or cream element of the latter. The addition of unsalted butter or of butter fat to the inadequate diet in which lard formed the sole fat component, prevented the suspension of growth in ungrown rats and promptly restored growth where it had failed. Milk fat, which includes all the milk constituents soluble in the fats proper, therefore contains something essential for growth.

McCollum and Davis showed that the failure of rats to make further growth after reaching a "critical" point on mixtures of isolated food substances could be remedied by supplying the ether extract of egg or butter. Rats in which growth was suspended may remain in a perfectly good nutritive condition for many weeks and still be capable of responding to the growth-promoting effect of the ether-soluble substances as well as to the mixed

foods of nature. In no case was a beneficial result obtained by feeding lard or olive oil. Egg fat, cod-liver oil and, in lesser degrees, beef-fat also exert favorable influences.

By a fractioning of butter-fat it has been demonstrated that the more liquid portion, or what is termed the butter-oil, contains the effective ingredient. This is not universally present in natural oils for it has been shown that certain fats like olive-oil and almond-oil are unable to replace the butter-oil in promoting resumption of growth. Cod-liver-oil is very effective and experiments show that the amount of butter-oil necessary to prevent nutritive disasters or to induce restoration where decline has resulted is surprisingly small.

The beneficial effect of some of the fat additions manifest themselves not only in the resumption of growth but also in the alleviation of incidental nutritive disorders and evidences of lowered immunity to disease. Experimental animals frequently develop an infection of the eye during the periods of nutritive decline. This has been noticed by various investigators and is perhaps represented by comparable phenomena in the malnutrition of children. The simple addition of cod-liver-oil or butter-fat to the diet, without other change, leads to a prompt disappearance of the symptoms of eye disease.

The mere absence of fat is not the cause of the suspension of growth—it is the absence of the vitamins in solution in it. Likewise no amount of butter-fat or cod-liver-oil will induce growth unless the proper proportion of inorganic salts, carbohydrates, and protein is present. Mendel and others are of the opinion that there are several vitamins—one for the maintenance of health, one for growth, another for curative measures, etc. Funk however denies this and bases his opinion upon the following experiments. He induced polyneuritis in birds by means of a diet of polished rice, this being continued throughout the experiment. The birds were cured by yeast-vitamine. Four pigeons were cured by a single injection in from one to three hours, showing appetite immediately on recovery, increase of weight during the first days after the cure and maintaining the gained weight about one week. Then they slowly lost weight again and developed polyneuritis—beri-beri—after twelve, fourteen, fourteen and fifteen days respectively. The other two birds which recovered after one injection fed themselves on polished rice, the dose of vitamine being repeated every four days. No evidence



of beri-beri symptoms developed. The vitamine was entirely devoid of phosphorus and possessed at the same time anti neuritic, appetizing and weight keeping properties. Therefore polished rice plus vitamine is a complete food; and there is also no necessity to assume the existence of several vitamins, one for curing symptoms and the other for the maintenance of body-weight. The fact that this complete restoration of health and weight was brought about without the aid of lipoids or other substances containing phosphorus shows that the physiological importance of lipoids in this regard must not be attributed to lipoids, but to vitamins which in the crude state are soluble in lipid solvents.

Since vitamins exert so great an influence on nutrition and growth it might be expected that their absence would tell on those glands of internal secretion which appear to be concerned in the metabolism of growth. As a matter of fact, it has been found that in pigeons suffering from the typical deficiency disease beri-beri, certain of these glands present marked changes. The thymus gland, normally very large and persistent in these birds, can be caused to atrophy completely by a diet of polished rice. Changes also occur in the pituitary, and decided atrophy of the testes and ovaries. Vitamins also influence tumor growths. Vitamine-free rice-fed chickens, 'inoculated with Rous' sarcoma, a very malignant chicken tumor, did not develop the tumor. In case of unpolished-rice-fed chickens and yeast-fed chickens practically all developed tumors. The drawback in making practical use of this is the difficulty of depriving animals of vitamins without causing them to develop beri-beri.

The nature of vitamins and their properties have caused many interesting observations to be made, and still more interesting inferences to be drawn, concerning the effects upon them in the preparation of raw food stuffs for consumption. By the process of milling and canning foods, vitamins are often removed or destroyed. Thus they are removed in the polishing of rice and in the preparation of white flour. Those separated from rice polishings are destroyed by heating to 120 degrees C. and their efficiency is diminished by boiling. Those present in whole-meal flour are not destroyed by baking. Flack and Hill have found that pigeons live perfectly well on whole-meal bread and water but not on white meal bread and water, since in the latter the vitamins are removed in the milling. Moore finds that vitamins which prevent scurvy are not destroyed by boiling. Hop-

kins finds that the addition of a very little milk to the bread either boiled or raw makes the latter a sufficient food. Therefore, there is no objection on this ground to the sterilization of milk for infant feeding. Vincent claims that a child fed on *really* Pasteurized milk alone does not thrive, for the vitamins are probably killed. Milk heated to 167 degrees Fahr. for fifteen minutes produced scrofula in infants. If combined with fruit juice, mother's milk, etc., there were no ill effects. Vitamins are soluble in water and hence may be removed if food is stewed in water and the liquor thrown away.

In the domain of practical medicine these recent investigations are likely to awaken fruitful speculation and beneficial applications. The popularity of the milk fats may be revived from a new standpoint. Quite recently Niemann has advocated the use of washed butter as an adjuvant to the dietary of malnourished infants and has reported signal success from its employment. The claim of cod-liver-oil appears in a new light. The use of egg yolk emulsion in the case of growing individuals finds justification. The claim of milk or fractions of milk, such as whey, etc., to a place in the ration of the young is emphasized. The contrast of skimmed milk or cream-free milk with whole milk is brought into new relations.

Vitamins are complex organic bases. Because of the comparatively high temperature necessary to destroy them it is not probable that they are injured by cooking, unless that cooking be prolonged. Their absence has a tendency to inhibit tumor growths and is a dominant factor in the etiology of the so-called deficiency diseases and in suspension and lack of growth. Growth is more than a mere energy problem. Its absence is due not only to insufficiency of food and individual food stuffs but also to specific deficiencies—viz., lack of vitamins.

#### Bibliography

- Mendel: *Harvey Lectures*, 1914-15.  
 Stewart: "*Manual of Physiology*."  
 Funk: *Journal of Physiology*, Vol. 45.  
 Funk: *Journal of Physiology*, Vol. 43.  
 Funk: *British Medical Journal*, April 19, 1913.  
 Funk: *Journal of Physiology*, Vol. 46.  
 Fraser and Stanton: *British Medical Journal*, 1913, H.  
 Hill, Leonard: *Lancet*, 1912.
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## THE INTRASPINOUS TREATMENT OF NEUROSYPHILIS WITH STANDARDIZED SALVARSANIZED SERUM

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No field of medicine has given more interest during the past few years from the standpoint of diagnosis and therapy than that of syphilis, and in no other diseased process has there been so much of value contributed to the efficiency of diagnosis and treatment.

The scope of work with which this presentation deals covers a period of fourteen months in which time forty cases of the various manifestations of neurosyphilis have been treated intraspinously. This treatment has been used as an adjunct to the general management of such conditions and has been given following or in conjunction with arsenical therapy by vein and mercurial injections. It shall not be my purpose to discuss the method for that has been given in a previous communication,\* nor a comparison of methods as the technique used has been solely that of salvarsanizing blood serum in vitro according to the method of Ogilvie. The quantity of salvarsan used in a single treatment has been from  $\frac{1}{4}$  mg. to  $\frac{3}{4}$  mg. in 15 cc. of blood serum. In this series of cases a total of 141 intraspinal treatments have been given, the greatest number given to a single case has been ten and the least number has been one.

The clinical classification of nervous involvement consists of the following, viz., tabes, twelve; paresis, six; cerebro-spinal syphilis, nine; cerebral syphilis, five; spinal syphilis, three; syphilitic hemiplegia, one; syphilitic psychosis, one; congenital syphilis, one; optic neuritis with no other clinical signs, probably early tabes, two; syphilitic dementia or meningo encephalitis, one.

Of the forty cases twenty-three or fifty-seven per cent had had previous intravenous treatment or mercury and were given both intraspinal and intravenous treatment alternating each week, except in two cases where it was given simultaneously and weekly. Seventeen cases or forty-three per cent of the whole series had previous intensive intravenous treatment but none while treated intraspinously. These cases maintained negative bloods to the Wassermann reaction but had more or less active nervous signs that had not been relieved by previous management.

\*From Department of Internal Medicine St. Luke's Hospital. Reference in *Cleveland Medical Journal* of last June.

Taking the whole series without grouping, according to the amount or kind of treatment, ten cases or twenty-five per cent are markedly improved in symptoms such as pain, sphincter disturbances, anemia and in general mental and physical state.

Twenty cases or fifty per cent show a degree of improvement but not completely relieved of all annoying symptoms.

Six cases or fifteen per cent show no clinical improvement.

Four cases have not been sufficiently treated to justify conclusions.

One case, an advanced parietic, grew progressively worse after two treatments and died.

The most striking improvement was in the type of case that had had intensive general treatment without complete relief, such as cerebral syphilis with agonizing head pains. It is interesting to observe that one intraspinous treatment will give relief where much general treatment has failed. The striking illustration is the type of case that develops signs of cerebral syphilis in the midst of active general treatment or subsequent to, where lumbar puncture findings show a very high cell count, a positive Wassermann and syphilitic globulin. It is this "so-called" early case that is completely relieved on intraspinous medication and the laboratory findings on the fluid are made negative. The sense of indescribable relief that certain cases experience from intraspinous treatment is gratifying, in fact this is so evident that certain cases ask for further treatment. This is especially true in tabes and cerebro-spinal syphilis.

#### Laboratory findings on fluid:

Number of cases made completely negative to Wassermann, cell count and globulin was four or ten per cent.

Number of cases where cell count brought to normal was eleven or twenty-eight per cent.

Number of cases where all findings were reduced but not made normal was twenty or fifty per cent.

Number of cases where lumbar puncture findings were negative and where intraspinous injections were provocative of positive findings was four or ten per cent.

Two negative lumbar puncture cases did not have subsequent observations.

The cases made negative on lumbar puncture findings consisted of the following clinical classification: cerebral syphilis,



three; and cerebro-spinal syphilis, one. Laboratory findings do not completely parallel clinical signs for the clinical improvement in certain cases far surpassed the laboratory improvement; on the other hand two cases with negative lumbar puncture findings, where the intraspinous treatment was provocative of positive findings, were made worse by treatment, both of which were old standing spinal cases.

The most encouraging results of intraspinous treatment are in the type of case that previously or simultaneously has been treated intravenously or with mercury and has not been relieved, but experiences marked improvement from intraspinous injections.

It is interesting to observe that most cases take intraspinous injections with as little discomfort as intravenous, in fact some experience less discomfort, and so far as reactions are concerned they are often no more marked than following intensive intravenous treatment. Lumbar puncture, skillfully done, is no more painful than insertion of a needle into the vein for intravenous work. Indeed many patients experience no discomfort whatsoever. The reactions from treatments consisted of exacerbation of characteristic pains of the disease, which come on in about two to four hours subsequent to treatment and disappear completely in twelve hours in most cases. Routinely, codein sulphate in  $\frac{1}{2}$  grain doses is given for relief. Approximately twenty-five per cent of the cases had no pain reaction whatsoever. Head pains do not follow, which one not uncommonly experiences following lumbar puncture for diagnostic purposes, where the patient is allowed to get up in twelve hours. One night in a hospital is sufficient to carry out this treatment safely.

This occasion will not permit a detailed account of the clinical and laboratory findings of each case and the corresponding improvement, but suffice it to say that the results in certain cases have been as encouraging as discouraging in others. As before stated the type of case that has given the most satisfactory improvement both from the clinical and laboratory standpoint is the one that has been intensively treated intravenously, or with mercury without relief, and is promptly relieved by intraspinous treatment. Clinically the early cerebral, cerebro-spinal or tabetic case is most encouraging. The type of case that we have reasons to believe has a meningo vascular involvement rather than a central nerve tissue involvement, with corresponding degeneration

of structure, is especially amenable to treatment. It is the inflammatory state that gives us most encouragement. Damage done by degeneration can not be restored but processes can be stayed and symptoms relieved unless these symptoms are as some observers contend due to resultant changes rather than active processes. It must be admitted that many cases of neurosyphilis are materially benefited by general treatment and some are no doubt clinically cured, but this does not argue against the value of intraspinous treatment as an adjunct in the management of these cases. The true value of intraspinous treatment can only be determined where it is used independent of, but subsequent to, intensive general treatment. It is obvious that this is the advantage of using a standardized salvarsanized serum which is given independent of intravenous treatment. If one wishes combined treatment, the same quantity of salvarsan will answer for both. To my mind, using the laboratory as an index to treatment, and it is more or less a valuable index, the case with a negative blood stream to the Wassermann gives no biological indication for intravenous medication, and again standardized salvarsanized serum in vitro is distinctly advantageous. My experience in treating paretics has been encouraging and discouraging, encouraging in that it has apparently prolonged remissions and discouraging in that it has finally failed to prevent relapse. One case of early paresis has improved materially and remains so at the present time, but time asks that I reserve judgment as to the final outcome. Certain cases of tabes have been completely relieved of pain and crises, are less ataxic, and have shown decided improvement in mental and physical state. Syphilitic iritis and optic neuritis cases have been clinically improved. Case of ophthalmoplegia showed marked improvement after a single intraspinous injection, this was subsequent to intensive mercurial therapy in another clinic where no improvement was evidenced. To be convinced of the value of the intraspinous method, as an adjunct to the treatment of neurosyphilis, one needs only to have an extensive experience. Like all therapeutic measures, at times it may fail, but successes are so evident that the procedure is more than justified. True it is, that many of these cases are clinically cured by general treatment but the case of failure demands intraspinous treatment, and as an adjunct to be carried alternating or simultaneously with general treatment, it is worth the effort.



It is generally known that little or no arsenic is found in the cerebro-spinal fluid subsequent to intravenous arsenical medication, and if this be true, we have little hope of attacking the disease process locally, when it has once passed the meningo vascular state. Even in the meningo vascular state it is an extra weapon of defense. Recent observations by Wile and others have shown that the nervous system is a point of attack in a big per cent of syphilitic infections; this being true, our experience teaches us that a certain per cent of these involvements are either cured by general treatment or remain quiescent for years, later to develop into some form of cerebro-spinal syphilis. Is it not advisable to routinely do a lumbar puncture on every case of syphilis that has given any sign whatsoever of nervous involvement, such as pain, drowsiness, or irritability? I know of nothing more disappointing to the clinician than dependence on a Wassermann reaction on the blood stream to rule out neurosyphilitic involvement. Is it generally appreciated that the Wassermann reaction on the blood stream is positive in only sixty to seventy per cent of unselected tabes, and about the same per cent in cerebro-spinal syphilis? Of course this includes all types of cases, the untreated, the treated, the early and the more advanced case. On the other hand, the cerebro-spinal fluid shows positive in approximately one hundred per cent of the cases of neurosyphilis to the Wassermann and this is generally paralleled with a lymphocytosis and a syphilitic globulin such as is evidenced by the Lange or Nonne-Apelt tests.

In the clinics of England and Germany they tell you that paresis does not exist with a negative lumbar puncture, a statement, I believe, that only rarely has exceptions. Recently, I have seen with a colleague, a patient who has a typical clinical picture of established tabes, who gives a negative Wassermann on blood and cerebro-spinal fluid, a lymphocyte count of six cells to 3.4 c.m.m. of fluid and a negative Nonne-Apelt globulin test. In spite of negative laboratory findings a diagnosis of tabes was made and improvement with specific therapy is quite evident. His blood stream did not react positive to the Wassermann after eight injections of mercury as provocative treatment. Of this series of forty cases, twenty or fifty per cent of them were referred for diagnosis with conditions supposedly other than syphilis. Common symptoms and diagnoses of which I may enumerate; head pain diagnosed neuralgia; headache from autointoxication

or too much protein food; vertigo caused by high arterial tension; abdominal and leg pains lancinating and paroxysmal in character diagnosed either rheumatism or neuritis. One case recently, that clinically is a tabetic with all biological findings positive, has been treated five years for neuritis; case of persistent vomiting treated for six months for stomach trouble, kept in bed on a limited diet without relief; case of cerebral syphilis with monoplegia affecting the left arm treated for neuritis of an unknown cause; vague neurasthenic symptoms associated with a cerebro-spinal syphilis treated for neurasthenia; cases of tabes with Charcot joints treated for rheumatism; syphilitic heart involvement with associated aortitis unrecognized; syphilitic nephritis in conjunction with cerebro-spinal syphilis with facial palsy treated for neuritis; gumma of pylorus treated for stomach trouble; syphilitic bone involvement regarded sarcoma. Of the unrecognized syphilitic nervous involvements in the above twenty cases, all degrees of clinical pictures were present from negative, suggestive, to definite signs. In all cases the lumbar puncture findings were positive.

In conclusion, permit me to say that we are learning to treat syphilis just as we are learning to diagnosis it; that the intraspinous method of treating neurosyphilis is a valuable adjunct in the successful management of these cases, but just what the proper treatment of an individual case may be we can not say, as we can be guided only by our experience both clinically and biologically, and that is ever changing.

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**Instruments of Precision, and Progress in Science.**—"Steps of real progress in medicine can be measured definitely by tracing the introduction of instruments particularly for diagnosis. Further, the progress of medical practice as an art depends largely on the generalization of the use of instruments of precision for diagnostic purposes. There is nearly always a distinct feeling of opposition to the introduction of new devices because of the inconvenience involved in having them at hand and the habits of accuracy demanded for their proper use. Once they are introduced we wonder how we ever managed to do without them, and realize how handicapped preceding generations of physicians were who knew nothing of them. While steps in the supposed progress that comes from hypothesis and theory often have to be retraced, with serious loss of time to the generation as well as disadvantage to the patient and discouragement for the physician, the advances which are registered with the use of instruments of precision remain with us as definite achievements for both the science and the art of medicine."—*The Journal of the American Medical Association*.

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## A PEDICLE CLAMP, SPECIALLY DESIGNED FOR USE IN NEPHRECTOMY.

By WILLIAM E. LOWER, M. D., F. A. C. S., Cleveland.

To give a better understanding of the use of the kidney clamp, which was described in the *Urologic and Cutaneous Review*, July, 1915, some added illustrations are herewith presented to show the method of applying the ligatures. The clamp was designed for the purpose of facilitating the application of a non-slipping ligature to the kidney pedicle. It is equally applicable to any pedicle from which a ligature may slip.

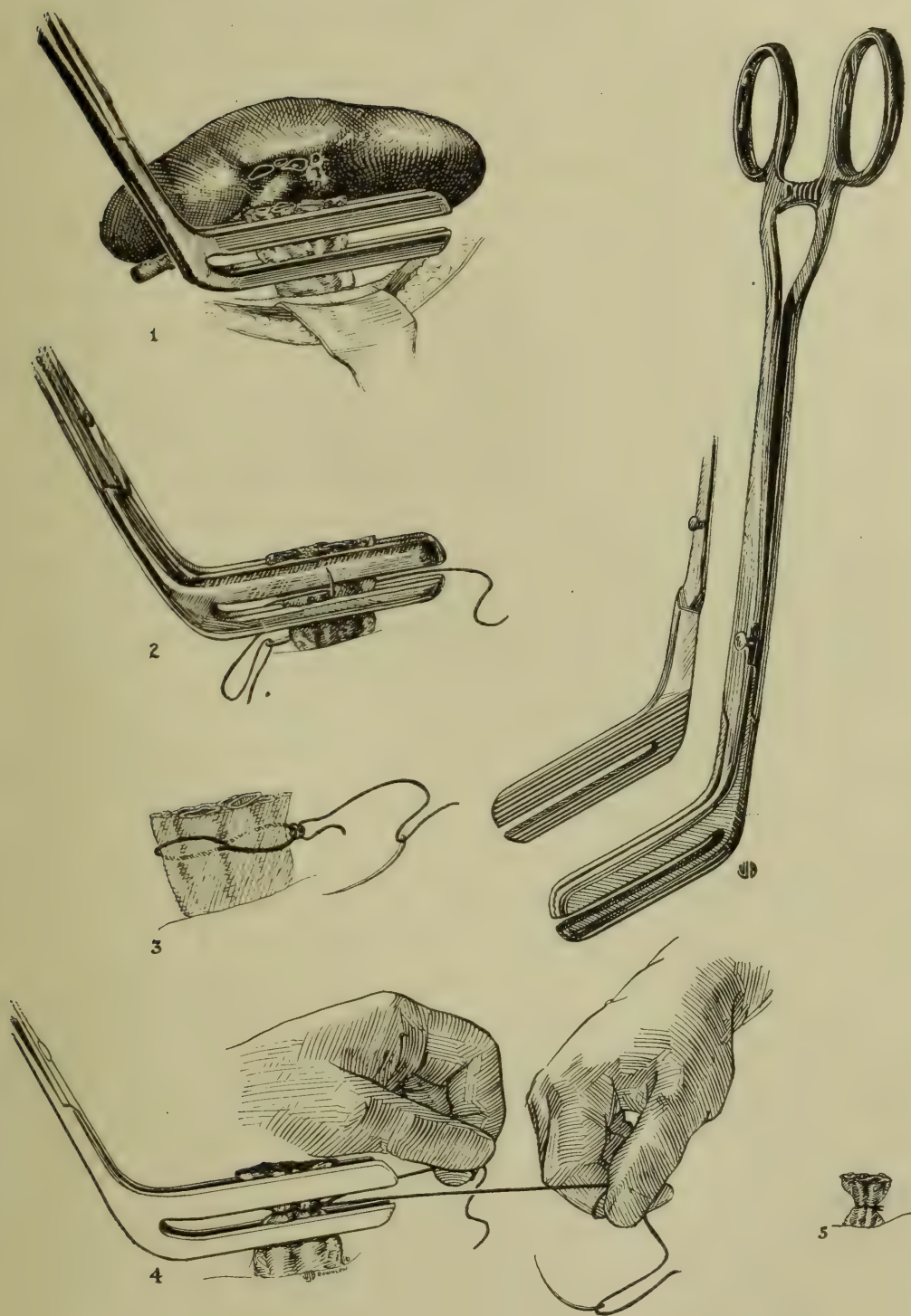
As shown in the illustration, the clamp is made with wide blades, which for nearly their entire length are divided into two unequal sections. It is this division which makes possible the application of a suture ligature in such a manner that the danger of slipping is obviated or minimized. The upper sections of the blades are wider than the lower, and are grooved parallel with the blades which are thus prevented from slipping. The instrument is nine and a fourth inches long, while the blades average two and a fourth inches in length, and are five-eighths of an inch in width, the upper section being three-eighths of an inch wide and the lower section and slit being each one-eighth of an inch wide. The length of the slit is two inches.

In nephrectomy, after the pedicle is freed sufficiently, the forceps is applied and the pedicle divided, as shown in Fig. 1. No further attention need be given to the clamp during the removal of the kidney as it cannot slip. After the ureter has been divided and the kidney removed, a figure-of-eight suture is applied through the slit, as shown in Figs. 2 and 3. As the ligature is tightened, the forceps is slowly loosened and removed by raising the heel, as in Fig. 4. In this way a non-slipping ligature is applied, and avoidance of bleeding is assured—a result not always secured by clamps.

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## CONGENITAL CLUB FOOT

By GEORGE I. BAUMAN, M. D., Cleveland.

The term club foot is usually applied to that deformity in which the fore-foot is adducted, the foot is inverted or supinated and planter-flexed, i. e. in equino-varus. Only this type and only the congenital variety will be considered in this paper.

About one-quarter to one-third of the cases of congenital deformity of the foot met with in a children's clinic are of this variety. It is about twice as frequent in the male as in the female. The right foot is more often affected than the left, and bilateral cases are as common as unilateral. Heredity plays some part in the etiology of club foot as we have noted in some cases. In a few, one of the parents, usually the father, was similarly afflicted. In several families two children had the same deformity. Where there is hereditary influence it is much more apt to show in the first born. With congenital club foot may be found other deformities either in the same patient or in other members of the family. Contrary to the opinion expressed or implied in a recent popular play, syphilis has nothing to do with the etiology of club foot. This statement should be made for the comfort of the unfortunate patient or more especially his parents. It is usually difficult to say just what is the cause of congenital club foot. A few cases are due to abnormality in the tibia or fibula, a few others to a nerve lesion, e. g., a spina bifida. Some may be due to the prolonged retention of the foot in the deformed position in utero, or to a deficiency of liquor amnii or to pressure of the uterine walls, although these theories are rather fanciful and are not well supported by facts. It is probably due to a primary error in the development of the foot portion of the early embryo.

The position of the foot varies from a slight adduction of the fore part of the foot—sometimes referred to as *pès adductus*—the deformity being easily corrected manually, to a very marked adduction, supination, equinus and internal rotation. The foot may be firmly fixed, the dorsum being very convex and pointing downward and forward, the sole acutely concave and pointing inward or backward and upward, the internal malleolus indistinct and pointing backward. This latter is the usual condition found in the neglected cases.

Every tissue and part of the foot is affected in congenital club foot. The most marked bony deformity is found in the shape and position of the astragalus and os calsis. In the soft

tissues the most marked changes are found in the ligaments, the plantar fascia and the tendo Achillis. The fact that every part of the foot and lower leg partake in the deformity has considerable to do with the treatment, as will be shown later.

The diagnosis is of course easy. It is important in considering treatment to differentiate the paralytic from the congenital deformity, but this is usually not difficult.

The prognosis depends upon several factors which should be considered separately:

1. Age. All things considered, the earlier treatment is instituted the better the result. However, in older children and even in adults, if the foot has not been mutilated by earlier unskilled or abortive treatment, a good cosmetic and functional result may still be obtained.

2. The amount and character of the rigidity present. This can usually be overcome by proper operative measures.

3. Persistence in treatment. This is of extreme importance. The parents should be advised that two years of more or less active work, including possibly several manipulations or operations, may be necessary to obtain the over-correction which is essential to a good result. If they are not willing to allow this, the surgeon should not take the case. Of course, active treatment, consisting in operation or manipulation and casts, should not extend over a period of more than two to three months, but the patient must be kept under constant observation for at least the two years, to see that correction is maintained. A patient with club foot of almost any severity under one year of age should be cured with practically no sign of the original trouble.

*Treatment.* The two objects to keep in mind in the treatment of congenital club foot are correction of the deformity and maintenance of this correction until the position is thoroughly established. Whatever method of treatment is adopted it is essential that at the end of active treatment, the foot be in a position of over-correction, i. e., in some valgus. If this is not done the deformity is almost certain to recur. How are these results best accomplished? In answer to this question there is found a considerable diversity of opinion among different operators. No doubt equally satisfactory results may be obtained by different surgeons by somewhat varying methods, but there are a few rules which, in the author's opinion, must be strictly followed if the best results are to be obtained.



*First:* No operation, not even a tenotomy or fasciotomy, should be performed until every other method has been tried. The only exceptions to this rule are those neglected or relapsed cases found in older children or adults in which there is marked rigidity due largely to bony deformity. Even these cases should receive thorough manipulation before any open operation is done.

The most perfect results follow in those cases in which no open operation has been performed.

*Second:* The period of active treatment should be as short as is compatible with thoroughness in obtaining over-correction.

*Third:* The child should walk upon the over-corrected foot a sufficient length of time to firmly establish the position.

In order to outline more clearly the treatment which we would advise, the cases will be divided into groups chiefly according to age.

*Group 1*—Cases seen soon after birth. The deformity should be corrected as far as possible by daily forcible manipulations done by the nurse or physician, the foot being held in the corrected position in the interim by a simple malleable splint. In the severe case, a manipulation under light anesthesia followed by fixation in plaster is justifiable. This period of constant fixation in plaster or splint should not, in the author's opinion, extend over three weeks. It is to be followed by daily manipulation by the mother or nurse and fixation by a brace to be worn only during the sleeping period. In this way interference with feeding and with the development of the leg are avoided, and at the same time the deformity is kept well under control. If thought desirable the two or three weeks of active treatment mentioned above may be repeated once or twice during the first eight to ten months. When the baby begins to stand, i. e., at seven to ten months of age, is the proper time in the author's opinion for the over-correction of the deformity. If the treatment outlined above has been even fairly well carried out, the foot can be over-corrected in one or two manipulations without any cutting. In the severe or neglected cases three or four sittings may be required. These manipulations should be done under anesthesia at about two week intervals and considerable force should be applied. The foot should be held in plaster about six to eight weeks after the last manipulation, the period of plaster fixation lasting, therefore, eight to twelve weeks. The baby will often learn to walk with the plaster on and this is eminently desirable. The period of plaster fixation

should be followed by wearing of a brace to hold the foot in the over-corrected position. The length of time for wearing the brace varies a great deal. In some cases the brace has been discarded during the day before the child was two years old, it being worn then only at night for another period of six months to one year. In most cases it is necessary to extend the brace to the pelvis in order to correct the internal rotation of the leg.

Undoubtedly this course of treatment requires more work and time than some of the other methods, but the excellent results obtained fully justify the extra effort.

*Group 2*—Cases in children from one and a half to four years of age. The mild cases in this group may be treated very much as outlined for the younger cases. In the more severe cases tenotomy or fasciotomy is justifiable. In this group bone operations are seldom necessary.

*Group 3*—Cases in children from four years upward. In this group operations on the bones are usually necessary. Whether this shall be a simple tarsectomy or one of the more complicated operations will be determined by the choice and experience of the surgeon. In a tarsectomy sufficient bone should be removed to allow full over-correction of the deformity. In some of the other operations less bone is removed and therefore there is probably less disturbance of growth and function after the operation. Wrenching with one of the instruments devised for this purpose is often of value in this and the following group. A fairly heavy mallet may also be used to drive the bones into the desired position.

*Group 4*—Adult cases. In these cases some form of bone operation is always necessary. Amputation of the deformed foot is rarely justifiable.

*To recapitulate:*

Treatment should be instituted as early as possible, but nothing should be done during the first eight to ten months which will interfere with the baby's nutrition or the development of the foot and leg.

Open operations are rarely advisable in the infantile cases, and should be avoided as much as possible in every case.

Treatment should be persisted in and the child should walk upon the over-corrected foot a sufficient length of time to thoroughly establish the proper position.



## COMPRESSED AIR DISEASE, WITH NOTES ON A CASE AND DISCUSSION OF ETIOLOGY FROM THE STANDPOINT OF PHYSICAL LAWS

By T. S. KEYSER, A. B., M. D., Instructor in Nervous Diseases,  
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On January 1, 1916, a man, aged 38, was admitted to the hospital complaining of excruciating pain in the lower extremities and inability to walk. On December 29th, he had been employed to work as a common laborer in the tunnel which is being built in Cleveland as a new intake for the city water supply. This was his first experience in working under increased atmospheric pressure. He worked eight hours, during which period he declares that he fell down three times, due to weakness of the lower extremities, but each time was able to resume work after a short rest. The patient, aside from the above, experienced no discomfort until one-half hour after removal from the tunnel, when he abruptly began to have severe deep-seated pain in both lower extremities extending from the mid-thigh to the lower third of the legs. From this onset he was unable to move the legs, any voluntary effort resulting in immediate exacerbation of the indescribable pain. The patient was not submitted to recompression, the only therapeutic procedure which has any definite beneficial effect. As no amelioration of the pains resulted during the succeeding two days, he was brought to the hospital on January 1st.

Nothing of importance was elicited in regard to the past history. He had enjoyed exceptionally good health and was quite moderate in habits except for a free indulgence in the pipe. His life had been one of hard manual labor. The general physical status corroborated the past history, showing him to be a well-developed, thoroughly normal laboring man.

The lower extremities were held in a tense semi-flexed position and quite apparently were not paralyzed at all. The slightest movement of the legs actively or passively, light touch about the knees or calves, or even a draught of air produced a paroxysm of pain. As a result, careful examination was impossible. However, the knee and ankle jerks were present and plantar stimulation caused plantar response.

On January 2nd, the patient had a sudden chill followed by a fever of 101.8°, the latter returning to normal on the following day.

On January 3rd, severe abdominal pains and retention of urine appeared. Marked abdominal distension and tenderness were present. Thorough catharsis and catheterization soon relieved these pains. However, the retention of urine persisted until January 7th when it was decided to try the effect of pituitrin. An intramuscular injection of 5 c.c. of pituitrin was given on the morning of January 7th. After three minutes a small amount of urine was voided voluntarily and in the late afternoon a large quantity was voided normally. Since then there has been no retention although no more pituitrin was administered.

On January 4th, the pains in the legs improved rapidly as a result, according to the patient, of lumbar puncture. The spinal fluid was under normal pressure, was very faintly yellow, contained 4 cells, and showed a faint trace of globulin. The Wassermann was negative in blood and spinal fluid.

By the 7th of January the patient was practically free from pain but examination was followed in a few moments by a severe paroxysm of pain especially about the knees and lower thighs. The patient pounded his thighs with his fists, saying he could not endure the horrible sensation. In a few minutes the pain subsided completely. On this date, pressure about the knees, lower thighs, or upper half of the leg caused severe pain. The deep reflexes were quite lively, but no Babinski or clonus was present. The muscular tension was absent and all voluntary movements possible.

Two days later the patient was able to walk about without experiencing more than slight discomfort in the knees. There was only moderate tenderness about the knees; otherwise the physical status was negative. The patient left the hospital on this date although advised to remain a few days longer.

Caisson disease always occurs in men who work under increased atmospheric pressure, the onset of the symptoms appearing immediately or within fourteen hours after decompression is completed. The pressure under which work is conducted is usually 20-35 pounds, though in a few instances as high as 50 pounds. The atmospheric pressure is roughly 15 pounds per square inch.

Three theories have been advanced to explain the pathology of this disease. The first idea was that the condition was the result of exhaustion and cold, but this has been definitely determined to be entirely erroneous. For a long period, in fact until about 1909, when Leonard Hill wrote his excellent articles



on the subject, there had been a controversy among physicians whether congestion or the formation of bubbles of gas was responsible for the condition.

A great many very careful observers believed in the congestion theory which may be summarized from the monograph entitled "Compressed Air Illness" by Snell (1896). He states that the disease is due to congestion and consequent malnutrition of all external organs, especially the cord. The congestion is due to constriction of the peripheral and abdominal vessels while under pressure. After decompression the peripheral vessels dilate due to the withdrawal of external pressure, resulting in a stasis of blood in the congested vessels of the internal organs. As the nervous system, especially the white matter, is especially susceptible to circulatory disturbances, it suffers most readily from this stasis.

This theory sounds quite plausible, but it omits to take into consideration several essential principles of physics which entirely refute its application. The solution of gases in liquids is subject to the law discovered by Henry that the mass of gas (air) dissolved in a given quantity of liquid is proportional to the pressure if the temperature remains constant. The laws of Boyle, Charles and Avogadro in regard to osmotic pressure may be reduced to the following statement: Dissolved substances (solids, liquids and gases) exert the same pressure in the form of osmotic pressure that they would if gasified at the same temperature without change of volume. Applying these laws to the circulation, it is perfectly apparent that the blood under normal atmospheric pressure contains that quantity of air in solution which, if gasified without change of volume would equal atmospheric pressure. (This of course has no relation to the oxygen and carbon dioxide in chemical union with haemoglobin.) The actual pressure in the circulation, therefore, is the atmospheric pressure plus the blood pressure as ordinarily considered. If the atmospheric pressure is either increased or reduced, the gaseous pressure in the blood rapidly changes correspondingly according to Henry's law, while the blood pressure remains practically constant. Thus, it is evident that a person with a blood pressure say of 120 in the brachial arteries under normal atmospheric pressure will continue to have approximately the same blood pressure when the atmospheric pressure is increased any number of times. In fact, the amount of pressure in itself is not the factor which limits

the degree of atmospheric pressure under which life is possible. The experiments of Best<sup>2</sup> and Smith<sup>3</sup> show that oxygen becomes toxic at high tensions. For example, 180 per cent of oxygen kills mice or birds within 24 hours and 80 per cent produced pneumonia in four days. The percentage of oxygen in air is 20, so 80 per cent equals four atmospheric pressures. It has been found that men can work only at pressures slightly above a pressure of three atmospheres and then only one or two hours.

That the physical laws stated above necessarily are in force is more clearly shown by the purely mechanical principles of pressure. The pulmonary blood pressure is considered to be about one-seventh as much as the systemic blood pressure, the equivalent of about 20 m.m. of mercury, or of a column of water ten inches high, or of one thirty-third of the atmospheric pressure. An increase of the atmospheric pressure to any appreciable amount would cause complete closure of the pulmonary circulation with almost immediate death if there was no corresponding increase in the osmotic pressure within the blood-stream. On the other hand a decrease in atmospheric pressure would raise the blood pressure to such an extent that the blood vessels would rupture. At an elevation of 10,000 feet, the blood pressure would be 420.

It may be asked why rupture of the blood vessels internally does not occur, especially in the brain and cord, if the absolute pressure in the circulation increases in direct ratio with the atmospheric pressure. This doubtless would occur if it were not for the fact that the body as a whole may, under these conditions, be considered as a fluid mass subject to the same laws of physics. All the tissues of the body are subjected to the same increase of pressure as the circulation. This is accomplished by the diffusion of the gases of the air from the blood-stream to the tissues to the point where equilibrium of gaseous pressure is established. Thus, it is apparent that a great deal of gas is present in the tissues not in direct contact with the blood-stream. It is quite evident that the reverse process must occur when the atmospheric pressure is reduced; that is, the air in the tissues must dialyse through the capillaries to the blood and from the blood to the alveoli of the lungs. Such a complicated process would necessarily require a length of time in direct ratio to the amount of pressure to which the organism has been subjected. The striking example of the result of rapid decompression is



observed in the explosion of deep-sea forms of life on being brought to the surface.

The above purely physical principles completely refute the congestion theories leaving only the formation of gas bubbles to explain the etiology of the disease. Felix Hoope<sup>4</sup>, in 1857, was the first to advance this theory. Many experiments and observations, notably those of Leonard Hill, have been made since, which confirm this hypothesis. Although bubbles of gas have been found in the blood and in nearly all the tissues of the body, it is a well recognized fact that the posterior and pyramidal tracts in the dorsal cord are the most frequent site of pathological lesions. The explanation of this is partially determined by the following facts: Vernon<sup>5</sup> has demonstrated that fat dissolves more than five times as much oxygen and nitrogen as water. The myelin of the white matter of the cord belongs to the group of fats and would, therefore, be a most common site of bubble formation in common with the fat of other parts of the body. Minute gas bubbles, which would be of no significance in the fatty tissues of the omentum or abdominal wall, would cause definite symptoms if they occurred in the cord. In autopsies on fatal cases of caisson disease, small foci of necrosis with secondary degeneration in the cord limited almost completely to the white matter are found. Hill<sup>8</sup> states that these gas bubbles occur as emboli in the small blood vessels. From purely theoretical considerations and also the location of the lesions, it seems more probable that the bubbles form in the white matter itself rather than in the blood-stream.

From a neurological standpoint, the origin of the excruciating pain is of special interest. Head<sup>6</sup> has shown that pain, in the non-irritative lesions of the nervous system occur only when the optic thalamus or cortico-thalamic (corticofugal) fibres, or peripheral nerves with loss of epicritic sensation, are involved. As the cord is the site of the lesions, it is, therefore, apparent that the pain must be due to the fact that the process is irritative in nature. The muscular rigidity, which is often so marked as to frequently suggest a spastic paralysis, is probably due in part to irritation of the pyramidal fibres, in part to voluntary muscular contraction as movement aggravates the pain, and in part to bubbles in the tissues about the joints, especially the knees, which have been demonstrated in some cases. The irritative factor subsides after a variable period and the pain coinci-

dentally disappears. Ordinarily there is no evidence of permanent injury to the cord after the pain subsides although the pathological lesions are destructive in nature. This is due to the fact that comparatively few nerve fibres are actually destroyed.

The effect of pituitrin in overcoming the retention of urine is really of great importance provided it uniformly produces the result obtained in the patient under consideration. The most serious complication in the disease is the development of cystitis which may prove fatal. Apparently the cord lesions effect the tropic nerves, thus lowering the resistance of the bladder to infection. The occasional development of trophic changes of the skin support this view.

The statement of the patient that improvement began after lumbar puncture was performed probably was a coincidence. The effect of lumbar puncture and the findings in the spinal fluid would be a rather interesting problem for special study.

#### SUMMARY

A typical case of caisson disease eventuating in recovery is reported. It is shown that the various congestion theories are quite fully refuted by a simple application of certain fundamental laws of physics, while the gaseous theory is fully supported by these same laws. The characteristic pains and rigidity are considered to be due largely to the irritative nature of the cord lesions. The relief of urinary retention by the administration of pituitrin is of special importance for the reason that cystitis is a most serious complication in the disease. The onset of recovery following lumbar puncture is an interesting observation in this case.

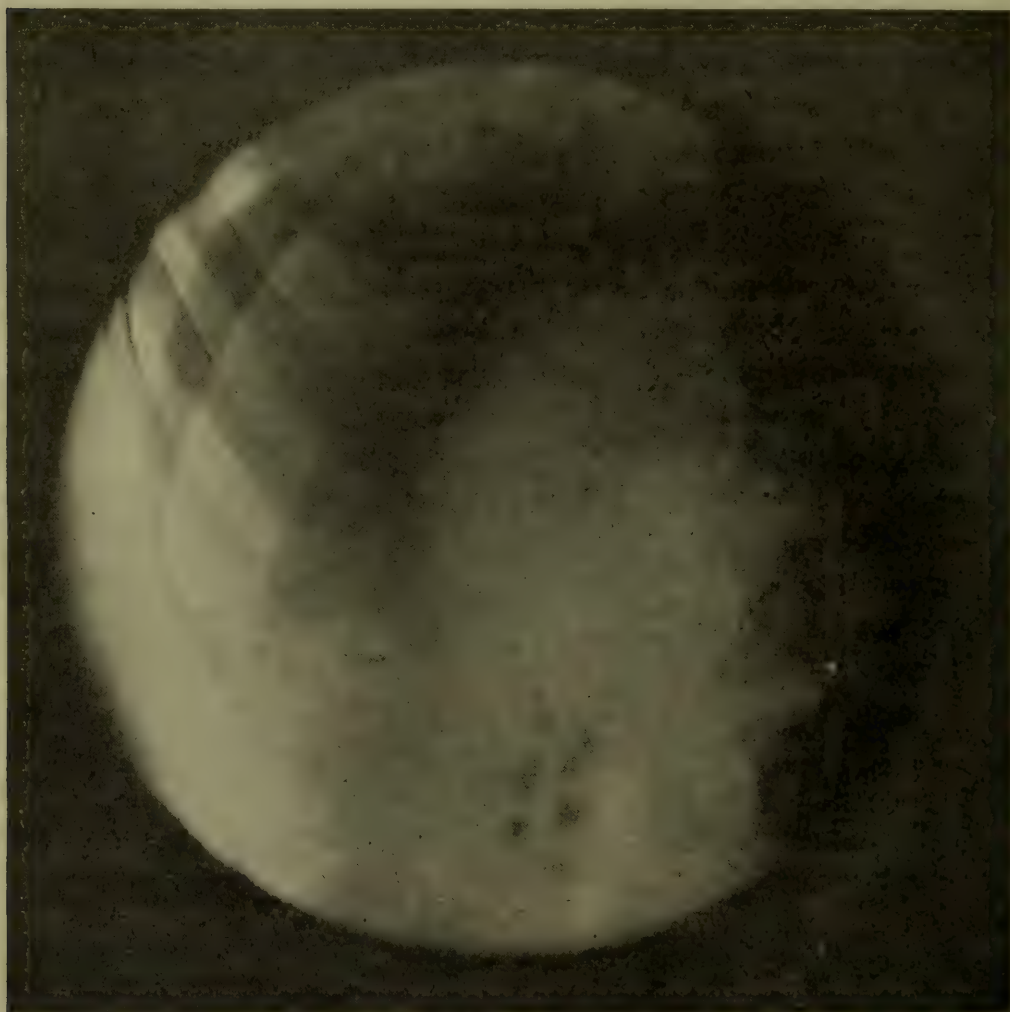
1. Hastings and Beach. *General Physics*, p. 228 and 236.
2. Paul Best. "*La Pression Barometrique*," p. 764, Paris, 1878.
3. Lorrain Smith. *Journal of Physiology*, Vol. 24, p. 19, 1899.
4. Hoppe-Seyles. *Arch f. Anat. Physiol. und Wissensch. Med.*, 1857, p. 63.
5. Vernon. *Proceedings of the Royal Society*, Vol. LXXIX, p. 366, 1907.
6. Head. *Brain*, Vol. XXXIV, 1910-11.
7. Tigerstedt. *Eigebnisse du Physiologic*, Vol. II.
8. Hill. *System of Medicine*, Allbutt and Rolleston, Vol VII, p. 693, 1910.



## THE IMPORTANCE OF X-RAY EXAMINATION IN CLINICAL DIAGNOSIS WITH REPORT OF CASE

By J. D. OSMOND, M.D., Cleveland

There is evident an increasing realization that the full value of the X-ray plate or fluoroscopic examination is made possible only by its employment by an experienced clinician. Not only is this true of the interpretation of plates after they have been taken, but the way in which they shall be taken—the position of the patient, etc.—can most efficiently be determined by a clinician who can interpret the case history and the outstanding symptoms.



Roentgenogram Showing Gall Stones, Symptoms of Which Suggested Duodenal Ulcer

In other words, the X-ray plate and the fluoroscopic interpretation constitute but part of the clinical evidence upon which the final verdict must rest.

Especially is this true in those obscure cases of gastric disturbance which defy physical examination and special tests. In

these cases the Roentgenogram and the fluoroscopic study *interpreted in the light of the general symptoms* will often complete and clinch the diagnosis.

Of these premises the following case history is an excellent illustration:

The patient was a farmer, 57 years of age, who came under the observation of his own physician three months before he was referred to this office. He had had a sudden and severe attack of pain in the epigastrium, which produced rigidity of the entire upper abdomen. No vomiting accompanied this attack and no tarry stools were observed. A normal temperature during the first few days was followed by a rise of one degree.

At the time of this attack it was considered that the patient had perforating duodenal ulcer and he was treated accordingly. The severe pain which was controlled only by morphin lasted about a week. After the rigidity had disappeared, the tenderness in the upper abdomen persisted for two weeks. The referred dorsal pain—equally severe on both sides—returned whenever the patient was allowed to sit up. This pain had no relation to the meals, soft diet having been resumed after two weeks of careful observation to make sure that the trouble was not caused by a ruptured duodenal ulcer. There was no jaundice. The blood count and urinalysis gave normal results. No gastric test was made at that time.

The patient was referred to Dr. W. E. Lower, who in turn referred him to this department for fluoroscopic and radiographic examination. After considering the history and making the physical examination, the cause of the abdominal pain was still undetermined. An examination of the gastro-intestinal tract was made with the fluoroscope and several radiographic plates were made. The stomach was normal in size, shape and position, and there was no special delay anywhere in the intestinal tract. There were no signs of gastric or duodenal ulcer present. An examination of the spine in the region of the pain showed the vertebrae to be normal. Gall-bladder plates were made just before the bismuth meal was given and when these were examined, gall stones were found.

At the operation five more gall stones were found in the gall bladder than showed on the plate. The patient had a perfect recovery and has had no return of the symptoms.

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## TROUBLE, DOUBLE, DOUBLE, PATHOLOGICAL AND PROFESSIONAL

By M. J. LICHTY, M. D., Cleveland

The fact that a patient with tonsillitis may also be bowlegged was expressed a few years ago in another city when a diagnosis was being discussed by friends, very worthy physicians.

One of them asked me to see seven patients in one family, who, not long before, had resided in a tropical country. He was called to attend a woman in confinement. The labor was followed in a few hours by a chill and high fever, and later by other symptoms of puerperal sepsis. In less than twenty-four hours a sister nursing a baby several months old developed similar symptoms, and a few hours later, a third sister. Within three or four days four brothers became ill in like manner. All the patients had considerable prostration with chills and fever; most of the seven developed a slight edema of the face and became somewhat jaundiced. These symptoms subsided considerably a few days later, and the temperature dropped to nearly normal. An interval of a few days was followed by a return of the symptoms, though less severe, and with a lower temperature than in the first period. A diagnosis of pork poisoning or some form of tropical disease was under discussion and fear of puerperal sepsis in the child-bearing woman was quite disregarded.

There was equal concern and interest about these patients who were seen by about a dozen physicians, and whose condition was reported to fully as many more of their colleagues. The physical signs and laboratory findings seemed rather insufficient to make a definite diagnosis previous to the day on which I saw the patients. On that day we noticed that the physical signs present in one or two were not present in others, and other physical signs were noticed in pairs of patients. In two the jaundice was so slight that it could easily have escaped notice. All but two had a very marked edema of the lower eyelids; two had tonsillitis and a higher temperature; two had loss of patellar and other reflexes; but all had some enlargement of the liver, with tenderness along the diaphragm and adjacent intercostal muscles, though without tenderness in other muscles. A blood count was made that day and an eosinophilia of twenty per cent was reported. The same day we also learned about a neighboring

family where there had been somewhat similar sickness, though milder, a week earlier, and then it was found that both families had purchased pork from the same huckster about ten days previously.

Considering all the symptoms and the presence of such a marked eosinophilia in the blood of the patient examined, we felt safe in saying that trichina poisoning was, without doubt, the cause of the common sickness, and the diagnosis was conclusive. But we were somewhat surprised to find that some of our colleagues, about thirty of whom were assembled at lunch that day, took exception to our opinion. Did we prove the diagnosis? And did that cover all the phenomena? Were there not other causative factors? Then, of course, it had to be admitted that while trichina seemed probable to us, other things needed consideration. Two days later two of these patients passed tapeworms, so there was good reason to take exception to that upon which we had agreed at the bedside. It will be noted two had tapeworms, two had tonsillitis, two had lost reflexes, two had young babies, and in two the jaundice and edema of the face were very mild. But we held to our moorings, and it was at that time that the statement was made that a patient who has tonsillitis may also be bowlegged.

Sarcasm is a sharp weapon, especially when one is on the defensive. But in spite of all of our friendly discussion, ludicrous and serious, it seems to me that a rational diagnosis for comprehensive treatment of these seven patients was more a matter of importance than a mere matter of interest to be discussed and dismissed with a sarcastic expression, for which an apology is here tendered. May it prove acceptable.

None of us will take exception to the statement that a correct diagnosis is a compliment to the physician and a wrong diagnosis has a stigma, and the practitioner rises or falls in the estimation of the people as the success or failure of his diagnosis and treatment are known to them.

A feeling seems to exist among the laity and even in some of our own profession to hold the diagnostician responsible for a complete diagnosis. Every minute imperfection must be recognized and treatment is expected to eradicate every ill feature speedily and forever. Now it is a very common observation that many people at their worst have more than one malady, though only the one most conspicuous may be diagnosed



and treated. Another observation just as common, is that few apparently healthy people are physically perfect, but of course it is very much easier to overcome one or two radical imperfections and restore the afflicted one to his former physical condition than to cure all the minor troubles and make the individual physically perfect. I have often said to those who quibble over extremes in diagnosis of perfect health or physical condition, that it is easier to make a tolerably good man out of a bad one than to make a saint out of a good man. In all my work and examinations of people, I doubt whether many perfect physical conditions were seen, nor have I seen many saints, though one sometimes hears of them.

Sickness at any time in which there is only one pathological condition or one kind of infection is astonishingly rare and infrequent. The term "multiple infection" is heard almost daily and for good reasons. It is not many years since surgeons began speaking about incomplete surgery of the abdomen. I have heard it said that when the surgeon operates only upon that one lesion in the abdomen discovered by the diagnostician, in forty per cent of cases he and the diagnostician are the only ones pleased when the operation is over, for in that percentage one or more additional lesions are present. Consequently the patients are disappointed with the result of the surgery which was insufficient. An examination of my own case records showed that in approximately forty per cent of cases in which the abdomen was opened there were two or more lesions, some diagnosed before operation, others only suspected, and some diagnosed while the surgeon was operating.

It seems reasonable to presume, therefore, that if the whole body could be examined any time an examination were made; or if other parts of the body could be opened for inspection and careful examination as is done by the abdominal surgeon, many other troubles besides the one suspected would be revealed. So it is safe to presume that in adult patients it would be no difficult matter to find in at least forty per cent two or more abnormalities.

But the ease with which all of us overlook one thing or another is remarkable. And whether criticism about incomplete diagnosis be heaped upon us by our colleagues or by the laity, whether it be unjust or deserved, it is very serious. These path-

ological conditions unnoticed lead to complications which become professional, likewise too often serious and painful. While further discussion along this line will be given later, reference must now be made to some personal experiences with patients in whom there were from two to six abnormal conditions, many of them serious, and where there was a basis for professional complications often as serious.

The first case to be mentioned is one in which the pathological troubles were many, but without professional complications. While the patient's condition was critical from the beginning, and the fatality no surprise, and the cause of death a subject of interest to physicians who would no doubt agree concerning all the findings, his death must have been a surprise to the pseudo-healers. They say there is no sickness in existence, and fatality is the result of mere error. In other words, don't get in wrong, and you will live forever, but faith cure or no cure, medical science or no medical science, any man who would say that patients having such multiple abnormal conditions do not die of disease, but of error, is one who is insane, illiterate or a liar. This patient thought himself practically well, though mental science was occasionally considered, when there was slight indigestion or other minor ailment. Faith, however, did not prevent jaundice and gall stones, which, though surgery was done early, were the cause of hemorrhagic pancreatitis, hardly suspected until fat necrosis was recognized in the abdominal incision. The hemorrhage was seen at the head of the pancreas, into which a drainage tube was inserted and the operation quickly completed. Within two weeks pneumonia developed, and later pus in the pleural cavity, which was opened under local anesthesia without taking the patient from his bed. An infection in the throat became more annoying and virulent and no doubt hurried the fatality. Findings at the post mortem are briefly as follows: A badly infected throat, pneumonia in a state of resolution, pus in the pleura, gall stones not removed at the time of operation, necrosis of the pancreas, and covering the intestines, stomach and peritoneum were miliary tubercles which were not present when the abdomen was opened. Retro-peritoneal tubercles must have been there previously and the escape of bacteria in his weakened condition the cause of the miliary tubercles by direct metastasis. Is it easy to tell under such circumstance which of the troubles was the cause of the death of the



patient? Is there much need of discussion? Would any one doubt that his death was the result of sickness instead of error? Surely the physician has prolonged the lives of many by recognizing pathological conditions early and preventing the occurrence of others. In this case the failure to make a diagnosis much earlier was the only error worthy of consideration.

The second case was a patient aged thirty-six who was losing weight rapidly and was known to have cardiorenal disease. He had hard arteries and hypertension with a blood pressure of 250. He had extremely good habits, and no previous illness. Aside from the high tension, hypertrophy of the heart and evidences of parenchymatous nephritis, very little was noticed in our first examination, except diseased tonsils and excess of leucocytes. An X-Ray examination made later revealed marked pulmonary tuberculosis, even with some cavity formation, and though he was sent to the hospital for diagnosis and some treatment to relieve him while selecting another climate, he soon developed tonsillitis and became extremely ill. The leucocyte count at once increased and within a few days he had developed complete anuria, which condition lasted for seven days and from which he never recovered. Aside from the anuria there were no symptoms of uremia, and it is questionable whether this patient died from that condition.

A study of this case might make one wonder if the man did not die of cerebral anemia following an aggressive and successful attempt to reduce the arterial tension, through which the brain and nerve centers were deprived of their usual blood supply—a matter of considerable consequence in his last days of illness. An anemia of the brain might have caused loss of function of the kidney. An autopsy confirmed all our previous findings. There was an infection of the kidney, as well as of the tonsils. Who can tell which was the most serious lesion in this case, or where the trouble began which was the ultimate cause of death. Could a specialist in medicine say that the most serious trouble was in the lungs; a heart specialist say that the cardio-renal condition was worse; a laryngologist say that the tonsils were the most detrimental; or the neurologist say that cerebral anemia was the cause of death in a patient who did not seem uremic; could the pathologist after a most careful post mortem decide the matter and name the primary and contributing cause of death?

The third case was of a man aged sixty-two, whose history was not any too good. He had renal disease, endocarditis and hypertrophy of the heart, hypertension, latent syphilis (contracted twenty years previously), tabes, a history of attacks of angina pectoris, and a rather constant tonsillary infection with a number of acute exacerbations. He was under observation for three years. The anginoid attacks seemed fewer and not so severe after some months of treatment, and the syphilitic and cardio-renal phenomena were mitigated considerably. However, he had a more or less constant albuminuria, with sometimes considerable glycosuria in addition. An attack of tonsillitis became complicated with serious renal symptoms terminating in uremia, at the height of which angina pectoris ended life and all its complications. With so many causes for angina one might wonder why he lived so long. Any one or all of four specialists, the internist, the genito-urinary specialist, the laryngologist, the neurologist, might have been essential to the treatment of this patient, but which of the four would say that the lesion he found was more serious than others? And would the pathologist believe that the assertion of any one of them was correct?

. The fourth case is that of a man who thought he had catarrh of the stomach, which should be relieved by a well selected medicine. But his poor health was likely the result of any one or all of five other conditions. There was a history of several attacks of gonorrhea, and of latent syphilis, from which his wife suffered, no doubt, through three miscarriages, and yet there were no children. He had also appendicitis, a duodenal ulcer, and gall stones. Now, if three different surgeons at three different periods had diagnosed only one of these lesions, not diagnosed by others, a comparatively easy matter, as there were no pathognomonic symptoms or physical signs of any, they would have had very good reasons for disagreeing. Surely many people are never forced into surgery, in spite of any one or all of these conditions. Now should it have been possible for this patient to evade operation after long treatment of a specialist in internal medicine, then the difference of opinion might have been still more remarkable. For when physicians disagree with surgeons and surgeons amongst themselves, the condition is likely to become the subject of conversation which becomes discreditable to us, and thus people begin to lose confidence in the medical profession. But with such varied opinions, all correct, what remarks could the



patient not have made, discreditable to all of those with whom he had consulted? This patient finally had an operation. The appendix and gall bladder with calculi were removed and an anastomosis was made between the stomach and bowel. He made a very nice recovery.

Case five is one in which the pathological trouble was "double, double," several times. While the patient's symptoms varied from time to time, she had migraine, appearing at half a dozen periods, and caused by as many distinct pathological lesions in different parts of the body. At one time there was intense headache for a long period, during which the patient had ptomaine poisoning. The convalescence was tedious, but the headaches stopped shortly after the toxic condition became milder, and at last disappeared. At another time the migraine was relieved after several months' treatment of cardiac insufficiency. After this the patient was comfortable for many months, but the trouble again became aggravated preceding the menopause. When the menses ceased entirely the migraine seemed to be over. A year or so thereafter headaches were associated with gastro-intestinal disorder, but they were relieved by removing the appendix and curing the indigestion. The migraine returned another time when bothered with chronic tonsillitis, with frequent acute exacerbations. A tonsillectomy again relieved the patient. About a year thereafter the patient's teeth were in bad condition, and though there had been considerable work by the dentist, it was found later that there were nine alveolar abscesses. During this period the migraine returned once more, not to be relieved until the teeth were extracted, in spite of all efforts by dental specialists to save them.

Now, suppose the family physician had treated that patient during the period of toxemia from ptomaine poisoning only, and that these attacks of migraine had all followed one another in quick succession, during which five different specialists had been consulted, either with or without the advice of the attending physician. She might have thought after consulting the heart specialist that her family physician was incompetent, not having found that lesion himself. Having consulted the gynecologist later she might have thought that one specialist also was unreliable, and after the surgeon that two of them were unreliable, and after the laryngologist that three specialists were incompetent, and at last after consulting the dentist, she might have come to the conclusion that all of the specialists, together

with the family physician, were not worth having. And in case of poor judgment, and hopeful of evading unpaid bills of the physicians, she might have thought she had good reason for condemning the whole group of them, if not the entire medical profession. In this case, however, the patient was somewhat shielded from specialists, and neither she nor I, nor any of the specialists have found fault with any. Under such circumstances, of course, neither doctors, nor patients should criticise each other, but is it not likely that many of them would, because they thought they could? And the gossip about ignorant medics, only grafters, might be enjoyed not only by laymen but by physicians, as well as by dentists, especially had it been thought that the dentist's diagnosis and care was the only essential at any time and that all else was unnecessary.

Of course professional differences do exist and are recognized and discussed publicly. I have tried to explain by the above cases that such disagreements are justified in instances which cannot be estimated, but the average layman and even many physicians cannot comprehend it. And doctors and patients and others, innocently or intentionally may and do make imprudent remarks that appear disreputable and even scandalous. It is questionable whether the personal success or failure as well as the achievements or blunders through medical arts and science are fully comprehended by half of the otherwise well informed public. However, pathological troubles are surprisingly constant and are manifestations of abnormal physical conditions. Likewise professional troubles prevail disgracefully and sometimes are manifestations of mental deficiencies, such as ignorance, indolence, dishonesty, egotism and jealousy. When the remarks of physicians themselves are imprudent and inaccurate, the art of healing is assailed maliciously and viciously. When physicians are no longer rivals, abusing and maligning each other, but instead are co-operative, then these assaults will not be so common. Co-operation among physicians is far better than competition, and where none exists, rivalry and jealousy predominate. Any individual who condemns another without good reason is neither lady nor gentleman, and those who are neither ladies nor gentlemen should not be allowed in our profession. This does not mean that those individuals, manifestly unworthy and dishonest, and even criminal, should be defended by any one; but in all occupations and professions the rogue with a microcephalic brain



in a macrocephalic skull, whose appearance is trustworthy but whose conduct is damnable, can start professional trouble. However, it is our duty to make better conditions as soon as possible, and to maintain them. It will require time and persistence and ability to heal social and pathological trouble—single or double.

A diagnosis of multiple trouble is not always made quickly, and important conditions may be overlooked by any one. Much may be unnoticed when people demand the last vestige of information after one interview with the doctor. Here is where the cock-sure, snap-shot diagnosis becomes so unreliable and is as worthless as others may think it brilliant. The incorrect diagnosis is often remembered longer and farther after those consultations where the consultant was obliged to commit himself following only one brief interview. Thus many consultations have been more of a farce than a benefit.

Let me suggest with all charity and with regret for personal deficiencies, that we be lenient toward our colleagues, and slow to criticise, for the opinion of others may be as good or better than our own. It has been said that selfishness is the one base thing in the universe, but ignorance, indolence, dishonesty, egotism, and jealousy, are debasing also. Double pathological trouble is doubly harmful, and double professional is doubly detrimental to physicians as well as to the public.

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### THE MEDICAL SCIENCES

E. P. Lyon, Minneapolis (*Journal A. M. A.*, Feb. 26, 1916), reviews the various special departments of medicine and pleads for the consideration of medicine in general as a science, including all its departments. It should not be too narrowly restricted with the fundamental departments, and we should observe that the student in his first two years is as truly learning medicine as in his last two years and should disabuse his mind of its familiar error as to the nature of the laboratory courses. Clinical teachers should be better trained in sciences than has been common in the past, and should recognize the intimate connection of them all. The cultivation of the wider scientific spirit in medical instruction is the main text of his address.

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### PELLAGRA

C. T. Nesbitt, Wilmington, N. C. (*Journal A. M. A.*, Feb. 26, 1916), gives facts and figures indicating that sanitary measures and disinfection have little influence on the incidence of pellagra, according to the local experience in his city. He sums up his conclusions as to its etiology in the following: "There is no existing relation between soil pollution and the incidence of pellagra. 2. Close supervision of all cases, disinfection, fumigation, isolation and the other usual means of controlling infection have no influence on pellagra incidence. 3. Business depression, lack of employment, a limited market for products and increased price of food, with consequent increase of indigence, increase the incidence of pellagra very definitely."

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

**Premature Separation of the Placenta.** This, one of the most serious complications met with in the practice of medicine, was first accurately described by Rigby in 1776. He designated the hemorrhage caused by such an accident as accidental, in contradistinction to the unavoidable hemorrhage associated with placenta praevia. Braxton Hicks in 1861, Goodel in 1870, Weatherby in 1878, Holmes in 1901 and more recently Williams (*Surg. Gyn. & Obst.* 1915, XXI, 541), have added materially to our knowledge on this subject.

Accidental hemorrhage alone will be discussed and is caused by a separation before birth of the child of the normally implanted placenta at any time between the seventh and tenth month of pregnancy. The separation may be complete or partial, central or marginal, and the resulting hemorrhage concealed or external, depending upon whether the blood is retained between placenta and membranes and uterine wall, ruptures into membranes, or dissects the membranes from the uterine wall and escapes per vagina.

The condition is much more frequent than generally supposed, being estimated by different authors to occur once in every 115 to 1,004 labours, the average being about once in every 200 labours. The hemorrhage due to premature separation is more common than that due to placenta praevia, and external hemorrhage due to the former condition, is ten times more common than concealed hemorrhage. Many cases will escape observation unless the placenta is carefully examined. The extent of separation varies widely, it may be complete or involve a very small area, usually, however, the area varies between 15 and 50 sq. cm.

Etiologically the condition is still obscure. Many conditions have been attributed as contributory causes, among which may be mentioned nephritis, eclampsia, short cord, endometritis, trauma, etc. More or less albumin has been found in the urine by four prominent writers in 156 of 315 cases, but Williams concludes that neither nephritis nor eclampsia play any important part as a causative factor. The microscopic examination of the separated areas and adjacent decidua do not warrant considering endometritis important etiologically. Although admitting that a short cord or trauma may occasionally be the cause of separation,



Williams is forced to conclude "that there probably exists some indirect connection between the toxaemic processes and the accident in question," though he believe these toxaemic processes to differ from those causing eclampsia.

When the hemorrhage occurs in the latter months of pregnancy or during labour, and upon introducing a finger through the internal os no placenta can be palpated, a diagnosis of premature separation of the placenta is assured. The amount of external hemorrhage is not an index of the degree of separation or the quantity of blood lost, since much may be retained. Careful repeated estimations of the hemaglobin will usually show a decreasing percentage even before the pulse increases in rate, and is a particularly valuable diagnostic means when the hemorrhage is concealed. The consistency of the uterus is of extreme importance, for, when in late pregnancy or early labour, it is very firm and does not relax, the diagnosis is practically assured. This sign does not depend upon the amount of hemorrhage, and is the same whether it be external or concealed. Severe abdominal pain is a constant accompaniment.

Williams describes two cases for which he did caesarean section on account of the severity of the symptoms. In both cases the uterus was purplish red and resembled in appearance a cyst with a twisted pedicle. The uterine musculature was permeated by free blood which had also infiltrated the tubes, ovaries and broad ligaments. In neither case, in spite of the various means to stimulate, would the uterus contract after the dead child was removed and hysterectomy was necessary in both instances. Microscopic study revealed marked blood vessel changes and hemorrhagic infarction of the uterus with thrombosis of many vessels.

Such conditions are not to be expected in all, especially in the slighter degrees of premature separation, but are always to be considered.

Although the hemorrhage of premature separation will continue until the uterus is emptied, interference is not indicated in the minor cases which will terminate spontaneously under expectant treatment. The treatment will depend on the symptoms and exigencies of the case. Cases demanding interference will be cared for by forceps, version, dilating balloon, or abdominal caesarean section, depending upon the condition of the cervix, the last operation being reserved for those cases with a firm,

undilated cervix with alarming symptoms and most cases of concealed hemorrhage, where it is the operation of choice unless the cervix be fully dilated and delivery be possible immediately by forceps or version. If, after delivery from below, the bleeding does not stop immediately, time should not be lost trying ergot, pituitrin, etc., but the uterus should be firmly packed with gauze, after which, if oozing continues, laparotomy is indicated, and if the uterus be found as described above, hysterectomy is indicated. This operation should also be done after caesarean section if similarly indicated.

**Ovarian Transplantation.** The extensive application and far-reaching possibilities of such a procedure as successful transplantation of ovarian tissue has stimulated many investigators to experiment along this line, and at the meeting of the American Gynecological Society in 1915, Doctor Franklin H. Martin and Doctor Sidney A. Chalfant in separate communications (*Surg. Gyn. & Obst.*, 1915, XXI, 568 and 579), review the literature and gave their personal experiences.

At the outset, for the sake of clarity, let us define heterotransplant, which means grafting tissue from one species to another; homotransplant, meaning grafting from one to another of the same species; and autotransplant, referring to a graft of tissue from an animal to another part of its own body.

Castle and Phillips have made homotransplants in guinea pigs which have subsequently borne young from the transplanted tissue. The same authors, disagreeing with Guthrie, hold that when homotransplants take, and function, the young produced show no evidence of foster mother influence in matter of color, etc. Most often the grafts atrophy after a short time, frequently the grafts persists, but no young result, which is the exception in their experience.

Tuffier has established, without a doubt, that in women autografting is possible without suture or vascular anastomosis. Heterotransplants rarely, if ever, give any results, and ovaries preserved in cold storage never.

Libroia working with dogs found that both homo and heterotransplants showed a gradual transformation into fibrous connective tissue. Voronoff experimenting with sheep has been successful with homotransplants as the animals subsequently reproduced.



Tuffier in 1914 had done 24 homografts in women, none of which were successful, nor did any of his heterotransplants function. His condensed summary of the subject of autotransplants was, that after transplantation where the uterus is left in situ, the ovary remains unaltered for several months. It is sometimes tender and the patient has symptoms of the menopause. After a while the ovary enlarges, becomes tender, and menstruation occurs, after which all symptoms subside. With grafting an ovary the normal condition of the patient can be maintained in many cases. Tuffier feels that ovarian transplantation without the uterus being left in situ is useless.

Martin's conclusions are that autotransplantation of ovarian tissue will eliminate the symptoms of an artificial menopause in a definite number of cases depending on the ability of the graft to retain its vitality in the new environment. Simple technique is as satisfactory as the more complicated where vascular anastomosis is attempted. The failure of hetero and homotransplants demonstrates that there is a definite antagonism between tissues of different individuals of the same species, and a prohibitive antagonism between the tissues of different species.

Chalfant in his human autografts utilized ovarian cortex about 0.5 cm. thick, which he buried in the subcutaneous tissue through two separate incisions within the anterior superior spines. He found that these grafts usually took and prevented or diminished the symptoms of an artificial menopause. Although the ovarian tissue was frequently dug out of an inflammatory mass, the transplants rarely suppurated, and if so, the trouble was always unilateral and incision was all that was necessary.

To recapitulate, hetero and homo grafts are rarely, if ever, successful in women, though the latter not infrequently takes in some animals. Whenever it is good surgery to remove both ovaries from a woman, it is advisable to make an autograft of part of the excised ovarian tissue even though it be materially affected. These grafts should be taken from the cortex of the organ and cut not over several millimetres thick, for the thicker the graft, the less perfect the vascularization, the greater the resulting necrosis and the fewer successful transplants. These grafts should be made in duplicate in the subcutaneous tissue or rectus muscle, within the anterior superior spines which will afford some protection from pressure of clothing and diminish the slight dis-

comfort experienced when the graft increases in size and becomes tender, particularly at the time of menstruation. In the majority of cases the symptoms of an artificial menopause may be avoided or greatly diminished and this is the case whether the uterus is removed or left in situ.

The last word has by no means been written on ovarian transplantation.

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**Are Hospitals Guarding Against Food-Borne Infections?**—The members of hospital staffs are urged to interest themselves in the question raised in the following letter, which has just been sent to all the hospitals in New York City.

"Gentlemen—A section of the revised Sanitary Code reads as follows:

"Sec. 146. *Employment of persons affected with infectious or venereal diseases prohibited.*—No person who is infected with any infectious disease, or with any venereal disease in a communicable form shall work or be permitted to work in any place where food or drink is prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale, or sold. Whenever required by the Sanitary Superintendent or Director of the Bureau of Food Inspection, of the Department of Health, any person employed in any such place shall submit to a physical examination by a medical inspector of said Department. No person who refuses to submit to such examination shall work or be permitted to work in any such place."

In order to carry out the purpose of this section, this Department is now engaged in the physical examination of persons commercially employed in the preparation and handling of food. Experience has demonstrated the importance of systematically excluding all typhoid carriers from such employment and special efforts are being made to elicit typhoid histories as well as any history of exposure to the disease. Whenever indicated, the Widal test is applied.

Logically, the examination of cooks and other food handlers should be extended to hospitals. This has not yet been done by the Department, first, because of our limited facilities; and second, because it is believed that many hospitals have already instituted, for their own protection, similar examinations.

May I inquire whether the periodic examination of food handlers is in vogue in your institution? If not, are you prepared to inaugurate such a system? On request, the Department will be glad to send a representative to confer with you, with a view to the establishment of a procedure similar to that which the Department is now carrying out elsewhere.

Very truly yours,

S. S. GOLDWATER, M. D., Commissioner.

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**The American Journal of Gastro-Enterology** has combined with *The Proctologist* and hereafter will be published (beginning with the March number, first of year) as *The Proctologist and Gastroenterologist*, from St. Louis. Doctor Lewis Brinton, Philadelphia, and Doctor Anthony Bassler, New York, will have editorial charge of Gastroenterology; Doctor A. L. Benedict, Buffalo, editor of Dietetics; Doctor Rollin H. Barnes, St. Louis, will be managing editor and publisher.

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## CLINICAL LABORATORY METHODS

By CLYDE L. CUMMER, M. D., Cleveland.

In the *Journal of Laboratory and Clinical Medicine* for March, 1916, J. J. R. Macleod discusses methods for the rapid and accurate estimation of sugar in small quantities of blood. He indicates that the method originated by Lewis and Benedict has the advantage of employing only small quantities of blood while it is accurate. The method has been simplified by R. G. Pearce and by Myers and Fine. It depends upon the reducing power of a protein free filtrate of blood. The substance used for reduction is picric acid, which is converted into picramic acid. The extent of the reduction can be determined by a colorimeter, since solutions of picramic acid are deep red in color. The method as modified by Pearce requires the use of 2 c.c. of blood which after withdrawal is at once mixed with 8 c.c. of water. After complete hemolysis has occurred, 15 c.c. of a saturated aqueous solution of picric acid is added. The mixture is shaken and the precipitated protein is removed by filtration. Six c.c. of filtrate are then mixed with an additional 2 c.c. of the picric acid solution and with 1 c.c. of a 10 per cent sodium carbonate solution. It is stated that usually two portions of 6 c.c. may be obtained, allowing two readings. The tubes are then autoclaved at 20 pounds per square inch pressure for a quarter to half an hour. The contents are cooled and poured into 10 c.c. measuring flasks and the volume is made up to 10 c.c. with distilled water. The color is then compared in a Duboscq colorimeter with a standard solution.

With Myers' and Fine's modification, the autoclave is not used, for which is substituted heating in boiling water for 15 minutes. There are other slight variations. The reading may be made in either a Duboscq or Hellige colorimeter. Professor Macleod states that he had not tested the accuracy of the latter method personally.

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Holm and Chambers, writing in the April issue of the *Journal of Laboratory and Clinical Medicine*, report their results in the quantitative determination of albumin in 6,000 cases of suspected tuberculosis. They direct attention to conflicting reports in the literature. This they feel is due to the general lack of uniformity in the methods pursued and to the personal equation in noting the reactions. The writers employed a method for

the quantitative determination with potassium ferrocyanid, previously reported by them. (*Jour. Am. Med. Ass'n*, LXII, 20.) "A quantity of sputum, not less than 10 c.c., is collected in a dry receptacle in the usual way. (Samples containing blood should be rejected, as blood invariably contains albumin.) After smears for microscopic examination have been made a quantity of sputum not exceeding 10 c.c. is poured into a 50 c.c. graduated glass-stoppered cylinder. To this is added three times its volume of water containing 1 per cent acetic acid, diluting the sputum to 25 per cent. After vigorous shaking with the stopper in place, the mixture is filtered through filter paper directly into a graduated centrifuge tube and 10 c.c. collected. To this is added 5 c.c. of 5 per cent solution of potassium ferrocyanid in water and the tube whirled in a centrifuge for five minutes at average speed. The amount of albumin is most conveniently recorded in volume per cent, each 0.1 c.c. on the tube being 4 per cent by volume after correcting for the original dilution. Absolute accuracy is impracticable in this work, so only approximate results should be recorded. If desired, the volume per cent may be calculated to weight per cent according to the method of Purday for urinalysis."

The writers admit that there is no specific relation between tuberculosis and the presence of albumin in the sputum, since albumin appears to be present constantly in pneumonia, pulmonary edema, and abscess of the lung. Their findings, however, indicate that albumin is present in the sputum of practically all cases of active pulmonary tuberculosis, and in over 80 per cent of these the amount is over 10 per cent by volume. An absence of albumin, they believe, excludes active tuberculosis as the source of the sputum. The presence of albumin in itself has no great diagnostic or prognostic value and it is only when quantitative determinations are considered together with other findings that most valuable conclusions may be drawn.

Further, they have come to the belief that a predominance of lymphocytes in the sputum in addition to a high albumin content justifies the diagnosis of tuberculosis even in the absence of tubercle bacilli just as do similar findings in a pleuritic exudate or spinal fluid. Either of these findings considered alone is unreliable.

The most valuable factor of the albuminous exudate as it occurs in active pulmonary tuberculosis, they hold, is the fact that it is independent of the presence of tubercle bacilli in the



sputum, and so is independent of whether the lesion is open or closed. The albumin determination is an index of the activity of a lesion which appears even before tubercle bacilli are found. The findings in certain cases which they followed from incipency seem to indicate that albumin appears even before bacilli are present, diminishing and disappearing with the arrest of the process.

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At a meeting of the New York Academy of Medicine, Drs. Swift, Draper and Fordyce discussed the methods of precision in the diagnosis of syphilis (*Jour. of A. M. A.*, LXVI, Feb. 19, No. 8, p. 599). Swift spoke especially of the Wassermann reaction. He called attention to the fact that, "In performing the test, five different biologic substances are employed, four of which may be considered as reagents which have not the fixed value of chemical bodies, but which vary in their properties according to the method of preparation, age, manner of preserving and other factors which are not understood. Because of the lack of uniformity in performing the test, the results should be judged from the clinical point of view. If the reports from a laboratory vary to any marked degree when the serums from a group of patients are submitted from time to time, it is safe to conclude that the methods employed in that laboratory are not well standardized. Whatever level is chosen can be fairly closely maintained by paying attention to the following points: 1. One should have a certain standard for the various components of the hemolytic system which must be tested each day. 2. One should use several antigens and compare a new one with old ones of known value before accepting it. 3. One should insert as controls not only serums which on the previous day gave strong positive and completely negative reactions, but also a serum which has given partial fixation." \* \* \* His final remarks are of especial significance. "Disappearing reactions are better indicators of sufficiency of treatment in late syphilis than in the early stage of the disease. A persistent positive reaction indicates the presence of syphilis somewhere in the body, and the first three or four years of treatment should be continued until the reactions remain negative. With reactions that cannot be influenced, a course of treatment should be given annually. In aortitis, persistent reactions while the patient is under mercury and salvarsan disappeared on continued administration of iodids. Because of the variability in the various reagents and lack of

uniformity in performing the test in various laboratories, it is essential that there should be close co-operation between the laboratory and the clinician, for the clinician should be the interpreter of the reaction."

In discussing the examination of the spinal fluid, Draper said that the four examinations employed were cell count, the globulin determination, the Wassermann reaction, and the Lange colloidal gold test. The cerebrospinal fluid shows some change in 100 per cent of early cases. The globulin test, he claims, is the first to appear and the last to go. Marked changes may be found in the fluid long before any signs or symptoms develop. He feels that even an isolated globulin increase is highly suggestive of syphilitic meningeal involvement.

Fordyce spoke of the colloidal gold test in the diagnosis and prognosis of syphilis of the central nervous system. He insisted that it could not be emphasized too frequently or too emphatically that the fate of the syphilitic individual depends largely on the early diagnosis of his infection and the intensity with which the treatment is carried out in the first six months. It is in the accomplishment of this purpose that the modern aids to diagnosis have rendered the practitioner invaluable service. Fordyce directs attention to the fact that the "tabetic syndrome may be simulated by the multiple neuritis of diabetes or alcoholism, and the real nature of the trouble revealed only by the spinal fluid analysis and the blood test. On the other hand, patient with syphilitic involvement of the central nervous system and suffering from obscure pains, febrile attacks, irritability, gastric and rectal crises, memory failure, etc., are often treated for years for neurasthenia, rheumatism, neuritis, surgical affections and various other conditions." He thinks that in the light of recent investigations, no analysis of spinal fluid is complete unless the Lange test be done. As a rule it parallels the other findings, but its greatest value is in distinguishing between paresis and the conditions which resemble it.

In the discussion, Dr. Sydney R. Miller made two points worthy of note: 1. A suspected spinal fluid should not be regarded as negative unless it is so when ten times the original volume suggested by Wassermann is used in the reaction. 2. Physicians should demand a report which clearly states against how many antigens and in what amounts a spinal fluid or serum has been tested.

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## REVIEW OF THE PROGRESS OF MEDICINE

By HUBERT C. KING, M. D., Cleveland

**The Treatment of Acidosis and Coma in Diabetes and the Prognosis of the Disease in General**

The doctrine of the past has been that the calories lost in the urine as glucose and acetone must be replaced by additional calories in the diet and, as fat was not supposed to influence diabetic glycosuria, it was forced upon the patient to supply these necessary calories. Allen<sup>1</sup> writes that "Fat added to a fixed diet brings back glycosuria and ketonuria in most severe diabetics." The diabetic lives untreated year after year without appearance of coma. "Their diet is atrocious. Along comes an enthusiastic young doctor— and presto! change! fat is increased, carbohydrate diminished and the patient goes into coma."<sup>2</sup> It is impossible for the patient to make acid bodies from carbohydrate, but when carbohydrate is replaced with fat the danger appears. "The doctrine that overfeeding with fat is harmless and even beneficial in increasing weight and strength, and that carbohydrate feeding is required to avert threatened coma has done much to retard the progress of the treatment of diabetes. . . . Excess of fat in the diet disposes to acidosis; the excess of carbohydrate to glycosuria."<sup>3</sup>

By acidosis is meant a decreased alkaline reserve of the blood. This may be measured indirectly in terms of carbon dioxide tension in the alveolar air, or directly by the ability of the blood-plasma to combine with carbon dioxide. In this regard Stillman<sup>3</sup> makes a statement worthy of note, namely, that "Urinary tests for acidosis are often misleading in that they are indicative merely of the excretion of acid bodies and are not a true index of their accumulation." Up to the present time the estimation of the alkaline-reserve of the blood has been too complicated for clinical use. By the use of Van Slyke's<sup>4</sup> glass pipette the process has been simplified. The plasma in the pipette is acidified and the bound carbon dioxide set free. The reading on the graduated scale gives the volume of gas directly or it may be expressed in terms of volume per cent carbon dioxide in the blood by reference to tables. It may also be expressed as alveolar carbon dioxide tension.

The treatment of acidosis is its prevention. Regarding children Dr. Jacobi says that those susceptible to acidosis ought not to have fat. In the past we have seen short fasts affect

favorably the degree of a severe acidosis. We now see it still more reduced by the more prolonged fasting. But Foster<sup>5</sup> raises the question, Is fasting always safe in these patients? Foster thinks it is not devoid of danger when used indiscriminately. Joslin<sup>2</sup> suggests that "Prior to giving any fasting treatment a possible acidosis be anticipated by taking away the cause—namely an absolute exclusion of fat from the diet, but otherwise make no change in the diet or habit of the patient. After two days, or longer, if desired, omit protein—another, though lesser contributing factor to acidosis—and whereupon daily halve the carbohydrate, hitherto unchanged in the diet until 10 gms. are reached, and then proceed with routine fasting treatment." The use of sodium bicarbonate has added nothing to the treatment of acidosis. Joslin says large doses are frequently dangerous to a patient with threatened coma.

#### Prognosis

Are our patients whom we now boast as "sugar-free" relieved of diabetes while they have no glycosuria? Is the diabetic process in abeyance? In many cases probably not. Foster<sup>5</sup> cites as proof the frequency of pathological organic changes which develop after long periods during which the diabetes is apparently under full control. He refers to renal disease and nerve lesions. There is no question but that a diabetic is better off without his glycosuria. But that is not all. We have accepted the condition of the urine as proof of the fact that the body's power to handle sugar is not being overtaxed. The real criterion is the per cent of the blood-sugar. Foster<sup>5</sup> voices a note of pessimism for some of our patients when he says that "In cases other than the mild ones the blood-sugar remains above normal and can be reduced to normal only during periods of excessively low diet or absolute fasting." "Constant hyperglycemia means a continuation of the abnormal state." This leads us to a further conclusion, namely, that the condition of the urine may mean nothing as to the diabetic state.

If this be true, many of our diabetic patients who are "sugar-free," are in reality, gradually using up their power to handle sugar, and, sooner or later, will die because of their diabetes.

One thing is certain, it is impossible to tell in advance whether any given case is mild or severe. Many cases with considerable acidosis prove after a year to be only mild.



Regarding age, it may be said that those who come under observation early after the disease is recognized, in spite of considerable glycosuria and severe acidosis, do well and secure considerable tolerance for carbohydrate. This is not true of young adults who come under observation after the disease is of several years standing, in spite of the fact that their cases are apparently mild. The glycosuria is easily controlled, but the blood sugar is very difficult to reduce to normal and in many cases it remains normal only under conditions too restricted to maintain health over a long period. This also applies to diabetic children. Those that survive are under height and under nourished.

#### Causes of Death

In discussing the causes of death in diabetes, Joslin<sup>2</sup> tabulates the causes of death in 420 patients. Of these, 147 died without and 273 with coma. Of those dying without coma, cancer claimed 17 and cardio-vascular-renal disease 62. Of this latter group of 62, 14 died of cerebral hemorrhage. 16 died of pulmonary tuberculosis. But most worthy of note, is the fact that infections were the cause of death in 36. Pneumonia was the cause in 15 cases. Only 9 died of gangrene, while 11 died as the result of tonsillitis. "Numerically infections take front rank and account—directly or indirectly, by precipitating coma for over 78 per cent of the deaths."<sup>5</sup> The figures given above do not include those deaths in coma, where that coma was precipitated by infections. If these figures were available the number dying as a result of tonsillitis would, without doubt, be appalling. "Tonsillitis that would hardly confine a healthy man to the house has sent many diabetics to the grave."<sup>5</sup> Pneumonia is almost invariably fatal, often because it precipitates acidosis and coma. The additional load of infection is more than the poor diabetic can add to his already heavy burden.

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#### References

<sup>1</sup>Prolonged Fasting in Diabetes. Frederick M. Allen, M.D. *Am. Jour. Med. Scien.*, Oct. 1915.

<sup>2</sup>The Causes of Death in Diabetes. Elliott P. Joslin, M.D. *Am. Jour. Med. Scien.*, March, 1916.

<sup>3</sup>The Fasting Treatment of Diabetes, with Special Reference to Acidosis. Edgar Stillman, M.D. *Am. Jour. Med. Scien.*, April, 1916.

<sup>4</sup>Method to be published in the *Journal of Biological Chemistry* in the near future.

<sup>5</sup>The Relation of Prognostic Factors to the Treatment in Diabetes Mellitus. Nellis B. Foster, M.D. *Am. Jour. Med. Scien.*, Feb., 1916.

Read also: Present Day Treatment and Prognosis in Diabetes. Elliott P. Joslin, M.D. *Am. Jour. Med. Scien.*, Oct. 1915.

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**PUBLIC HEALTH NEWS**

From Bureau of Health Education, Division of Public Health

R. H. Bishop, Jr., Commissioner

J. D. Halliday, Chief of Bureau

In connection with the work of the Bureau of Laboratories and the Bureau of Communicable Diseases, Dr. R. G. Perkins, Chief, plans are being developed which will admit of the use of the Schick test on a wider scale. This test, as is now well known, shows without any interference with the comfort of the subject whether or not any given person is susceptible to diphtheria. It is being used widely to determine the proportion of the inmates of institutions or children in schools and other groups of people who are naturally protected against the disease. One of the practical points in connection with this is that these persons who are so protected do not need antitoxin. This avoids expense and the occasional anaphylactic results of antitoxin administration. The district physicians are at present being instructed in the technic, and it is the intention of the Health Division to make the test as widely accessible as possible.

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Owing to the fact that there has been delay in the arrival of the supplies for the Wassermann work in the Serological Laboratory, and also inasmuch as it is now probable that the Laboratories will have to move to the new city hall within a few weeks, it has been considered advisable by the Division to postpone the opening of the laboratory until it reaches its new quarters. Probably not later than June 1st.

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Twenty students have already enrolled for the first session of the newly founded Trudeau School of Tuberculosis which opens at Saranac Lake, N. Y., on May 17th. This is five more than it was thought the school would be able to handle. Provision has been made, however, to care for the complement of twenty. Five scholarships have also been provided. Cleveland should be particularly interested in the Trudeau School inasmuch as it finally was made possible largely through the generous aid of Samuel Mather of this city.

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A crusade against "White Plague" is now under headway in Michigan. Under direction of Dr. Victor C. Vaughan, president of the state board of health, a tuberculosis survey of thirteen



counties is being made. A two year's campaign against the disease is the present plan, on which \$100,000 will be spent.

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Health Commissioner Bishop asks the co-operation of physicians in checking up on partial practitioners in this city, by reporting the name and address of any they come across. In an effort to check up accurately Commissioner Bishop has just had all registered physicians listed. As the state law requires all physicians be registered in the place in which they are to practice it is urged that every physician in Cleveland "check up" on himself to see that he has done so.

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Chief Chemist, W. S. White, is still driving away at his inspection of all stores and places in Cleveland where food products are handled. He plans to re-check on all stores whose score falls below a certain average, probably 75. In this way he will continue his inspection until every store and shop is brought up to standard.

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Considerable interest has been shown in the April number, the first issue, of the Health Division's monthly bulletin, "Your Health." Several large concerns have already asked that they be supplied with copies to be distributed among their employees. Dr. E. A. Peterson, Medical Superintendent of Schools, has also had copies sent to all teachers.

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**Who would have thought that the tin can is a menace to the public Health?** The expert malaria investigators of the U. S. Public Health Service have found, however, that discarded tin cans containing rain water are breeding places for the mosquito, which is the sole agent in spreading malaria. A hole in the bottom of the empty can might have resulted in the saving of a human life. Certainly it would have assisted in preventing a debilitating illness. Empty tin cans have no business about the premises, anyway, but if we must so decorate our back yards, let's see to it that the can has a hole in the bottom.

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**Do You Know That:** There is no Federal institution in the continental United States for the reception and care of lepers? Plague is a disease of rodents? Malaria is spread by a special mosquito? House screening is a good disease preventive? Fingers, flies and food spread typhoid fever? Pellagra may be prevented or cured by proper diet? The United States Public Health Service believes that the common towel spreads trachoma, a disease of the eyes? Children from sanitary homes advance more rapidly in school than those from dirty premises?

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# The Cleveland Medical Journal

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All remittances to the Journal should be made payable to The Cleveland Medical Journal.

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Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

Original articles are accepted for publication by this Journal only with the distinct understanding that they are contributed solely to this Journal and will not be published elsewhere as original.

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## EDITORIAL

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### MEETING OF THE WESTERN RESERVE MEDICAL SCHOOL ALUMNI ASSOCIATION

Increasing replies from members of the Alumni Association give assurance that the coming meeting on June 8, 9 and 10 will be by far the largest in the history of the institution. Embracing, as it does, the graduates of the Cleveland Medical School, the Charity



Hospital Medical School, the Medical Department of Wooster University, the Medical Department of Western Reserve University, and the Medical Department of Ohio Wesleyan University, this association, in numbers, as well as in the attainments of its members ranks with the first few medical schools of the United States. The graduates in Cleveland alone number more than six hundred.

The meeting for the present year marks a radical departure from the meetings of the past. In previous years the one day meeting afforded little more than an opportunity for the various class reunions, and the annual dinner in the evening. The present three-day meeting is in reality a response to the demands of the alumni that there be a combination of the scientific and social and that they be afforded an opportunity to acquaint themselves with the progress and present status of the institution.

Clinics and demonstrations have been provided for both morning and afternoon of each of the three days. In addition the Free Dispensaries of both Lakeside and Charity Hospitals, as well as the Babies' Dispensary, will be open daily as usual; so that, no matter in what department of medical work the returning alumnus may be especially interested, ample opportunity will be provided. The association is especially fortunate in securing as guest of honor for the occasion one of the best known physicians in America today—Dr. John B. Deaver of Philadelphia. Dr. Deaver will deliver the address immediately after the annual dinner, and in addition will hold a diagnostic clinic at City Hospital the following morning.

No little thought has been given to the purely social side of the occasion. On Thursday, the evening of the first day, there will be a complimentary smoker at the University Club at 8 o'clock. At 6:30 on Friday evening the annual subscription dinner will be held at the same place. This club offers a most ideal location for just this sort of an affair. Immediately after the dinner there will be a short business session, which will be followed by Dr. Deaver's address. On Saturday morning transportation will be provided to and from City Hospital, so that visiting guests will have no difficulty in reaching the institution promptly and easily. After Dr. Deaver's clinic, there will be a complimentary luncheon at the hospital.

An especial advantage is afforded this year in that the meeting immediately precedes the annual meeting of the A. M. A.

in Detroit the week following. Arrangements are being made with the various railroad and steamship lines so that stop-over privileges may be enjoyed by all those who wish to attend the Detroit meeting.

The provisional program is as follows:

**Provisional Program, Annual Meeting, Cleveland, June 8, 9, 10, 1916.**  
**Headquarters for Registration, Western Reserve Medical School**  
**Building, St. Clair Ave., Corner E. 9th St., Cleveland.**

Lakeside Hospital, Thursday, June 8th. Morning.

- 8:30 A. M. Surgical Clinic, Dr. Crile.
- 8:30 A. M. Surgical Clinic, Dr. Lower.
- 10:30 A. M. Medical Clinic, Dr. Hoover.
- 10:30 A. M. Gynecologic Clinic, Dr. Weir.
- 10:30 A. M. Gynecologic Pathology, Dr. Fullerton.
- 11:30 A. M. Laboratory Methods, Dr. Christie, Dr. Blankenhorn.

St. Luke's Hospital.

- 8:30 A. M. Ear, Nose and Throat Surgery, Dr. Lenker.

Charity Hospital. Afternoon.

- 2-5 P. M. Surgical Clinic, Dr. Hamann.
- 3-4 P. M. Medical Clinic, Dr. Sawyer.
- 3-4 P. M. Pelvic Surgery, Dr. Monaghan.

Lakeside Hospital.

- 2:00 P. M. Transfusion, Dr. Sloan.
- 2:00 P. M. Ear, Nose and Throat Surgery, Dr. Ingersoll, Dr. Chamberlin.
- 2-3 P. M. Demonstrations in Lakeside, Charity and Babies' Dispensaries by Members of the Visiting Staffs.
- 8:00 P. M. Complimentary Smoker, University Club, 3813 Euclid Ave.

Charity Hospital, Friday, June 9th. Morning.

- 8:30 A. M. Surgical Clinic, Dr. Bunts.
- 10-11 A. M. Gynecologic Clinic, Dr. Humiston.
- 11:00 A. M. Surgical Clinic, Dr. Herrick.

German Hospital.

- 9:00 A. M. Surgical Clinic, Dr. Becker.



## St. Luke's Hospital.

8:20-12 M. Surgical Clinic, Dr. Skeel, Dr. Spurney, Dr. Stepp.

9:00 A. M. Medical Ward Demonstrations, Dr. Lichty, Dr. Stoner.

## College Building. Afternoon.

1-2 P. M. Anatomy, Dr. Todd.

1-2 P. M. Embryology and Teratology, Dr. Ingalls.

2-3 P. M. Surgical Anatomy, Dr. Hamann.

3-4 P. M. Some Applications of Bedside Physiology, Dr. Macleod.

4-5 P. M. Histology and Embryology, Dr. Waite.

4-5 P. M. X-Ray Demonstrations, Dr. Hill, Dr. Thomas.

Laboratory Demonstrations.

6:30 P. M. Annual Dinner, University Club, 3813 Euclid Ave., followed  
by Alumni Association Business Meeting.

Address by John B. Deaver, M. D., L.L. D.

## City Hospital, Saturday, June 10th. Morning.

Transportation to City Hospital Provided.

10 A. M. Dr. John B. Deaver, Philadelphia, Clinic on Diagnosis and Discussion of Surgical Cases.

12:00 M. Lunch at City Hospital.

1:00 P. M. General Clinic. Medicine, Dr. Carter; Demonstration of Electro-Cardiograph, Dr. Dexter, Dr. Geib, Dr. Cummer, Dr. Scott, Dr. Hanzlik. Surgery, Dr. Hamann, Dr. Lenhart, Dr. Thomas. Pediatrics, Dr. Ruh, Dr. Goehle, Dr. Beekel. Neurology, Dr. Stone, Dr. Keyser. (City Hospital offers extremely varied clinical material.)

W. B. C.

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## WHEN ARE OUR NEIGHBORS A MENACE?

When a contractor excavating for the foundation of a building hits quicksand he immediately takes steps to dam it back. He knows it will be impossible to raise a staunch structure until the quicksand is under control.

Yet under our present system the health officers of practically all large cities are laboring to lay the foundation of good health with the quicksand of disease seeping in on all sides.

One of the greatest menaces to the health of any city or large community, in this instance Cleveland in particular, is this

continual creeping in of contagious disease which is bred in the surrounding smaller towns and communities where practically no provision for safeguarding health exists.

I could name half a dozen towns adjoining Cleveland where the neglect in regard to public health work is shameful. Where if there is a health officer at all, he is apt to be anything from a blacksmith to an undertaker. At any rate, a man who has not the slightest idea of what really is expected of him or how to go about getting it.

There is a flagrant neglect in reporting cases of contagious disease. Practically no attempt is made to enforce the laws regarding quarantine.

The jurisdiction of the Cleveland Health Department ends at the city limits. If we protest about conditions just beyond we are apt to be told to mind our own business.

But in protesting we ARE minding our own business.

Disease bred in these towns is brought into the city by children who come to attend a city school, by men whose jobs bring them into the city daily and even by the good wives themselves who come to shop at the big stores.

The Cleveland Health Department, for instance, does not hear of cases of contagious disease in nearby towns until they finally have been reported to the State Health Department.

Is it any wonder that we consider the relation of these towns to Cleveland as dangerous as a polluted well to a household?

The fault does not lie with the individual towns or communities, it lies with the entire State medical system.

Relief will come only with a re-organization of the present system of health work that will result in the dividing of the State into districts with experienced and competent district inspectors in charge.

R. H. B., Jr.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland.

**Pneumonia:** Hobart Amory Hare in the *Therapeutic Gazette* for March considers the diagnosis and treatment of pneumonia. Croupous pneumonia strikes rarely on the child, often on the adult and very often at the aged. It is important to bear in mind that the local lesions in the lung are accountable for some, but not for all of the patient's symptoms. It is important to remember that the physical signs, the actual lesions, and the course of the disease in both types of pneumonia, and particularly of the croupous type, are widely variant according to the state of the victim and the virulence of the invading organisms. In children he has noticed that a lesion of the apex is often associated with a fear of falling so that the child clutches the mother as if it were about to drop off her lap. Fever is of course of great diagnostic value, but in the old or feeble, and in renal cases, it may be very slight, and even absent in cases which are rapidly fatal. This holds true also in diabetes. As to the treatment of croupous pneumonia, he says, "For God's sake, let them get well." Do not harm. Let nature's laboratory make the needed drugs. The point is not to try to treat the pneumonia. There are certain remedies in this disease which, although they are frequently employed, are without doubt contraindicated in all instances. He refers to the coal-tar antipyretics. Fever is not harmful and antipyretics are useless. On the other hand he believes that fresh air lowers temperature and permits oxidation and is as near a specific remedy as we have. He has frequently seen a patient brought in from the pneumonia roof ward in excellent condition become distinctly livid and markedly worse within ten or fifteen minutes, and equally rapidly improve when once more put in the fresh air. He would rather have this method of treating croupous pneumonia than any drug with which he is familiar. It is hard on the patients, but is life to the patient. Another mistake which is frequently made is to treat symptoms, without any good reason for treating them, simply because the symptoms are not in accord with the normal state. Any attempt to force the respiration or the temperature to the normal line is futile and dangerous, but when any symptom or series of symptoms becomes so widely separated from normal function as to be dangerous in itself or to indicate the approach of danger, it should be curbed, and curbed fearlessly. The function of the physician is to determine with nicety these facts. He believes that the administration of ten drops of tincture of belladonna three or four times a day throughout the greater part of the attack and especially the latter part of croupous pneumonia tends to prevent complications in the vascular apparatus, and that atropine and strychnine are to be kept in reserve to be used in full dose to meet any threatening of collapse. Another point he emphasizes is the error of writing prescriptions for a pneumonia patient and having them continued for days at a stretch. He has never seen any case of pneumonia which needed the same remedy in the same dose day after day. A few good sized doses of digitalis are often wise, but its persistent use is usually unwise.

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**Tuberculin Therapy:** Henry L. Shively in the *New York Medical Journal* for January 8 treats of the present status of tuberculin therapy. He has his doubts as to the therapeutic efficacy of those tuberculins which it is asserted have been so treated as to minimize the occurrence of reactions. We have not sufficient knowledge of the active and desired substances in tuberculin which have never been isolated to make it practicable to try to separate them from those which are poisonous or inert. It is well for a beginner to select one preparation, preferably one representing all the substances contained in the bacilli, and the best for all purposes is probably bacillen emulsion. It should

always be remembered that tuberculin in itself has no curative properties; it is in no respect like diphtheria antitoxin; it is an active immunizing agent, dependent for its useful effects upon powers to stimulate the production of antibodies. Patients with severe mixed infection or grave complications as diabetes or nephritis, cases of acute miliary tuberculosis, and rapidly advancing cases of pulmonary tuberculosis with areas of softening and recent cavities, cannot be expected to react favorably to tuberculin. The special field for tuberculin is that large group of patients with fairly good resistance, with little or no fever, stationary or slowly progressive, who are ineligible for or cannot go to the sanatorium, or who have failed to attain a cure or arrest of their disease while at the sanatorium. To secure the more extended use of the tuberculin treatment it is necessary that it should no longer be limited exclusively to sanatoriums and the practice of specialists. He sees no reason why any well trained physician is not competent to give the tuberculin treatment. The physician's best guide is a carefully recorded observation of his patient's temperature, pulse, weight and general condition. Doctors who are too busy or too impatient or perhaps too lazy to properly administer the tuberculin treatment should not attempt it.

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**Tuberculous Glands:** In the *Medical Record* for March 11, Arthur Fenwick Holding treats of the non-surgical treatment of tuberculous glands. Having observed the good effects of Roentgen rays on tuberculous glands during the past fifteen years, he is surprised to find that this method is little known and seldom advised by the profession. Modern text-books and the medical profession at large still advise the radical operations that were considered orthodox before the discovery of the therapeutic worth of Roentgen rays. Non-surgical methods, including the X-rays should be tried first in the hope of avoiding operations. Osler and McCrae advise against the use of X-rays on account of skin dangers and possible peripheral spreading of miliary tubercles, from which it would appear that they are not familiar with measurement of X-rays for skin tolerance and histological studies of tuberculous lesions under X-ray treatment. The best results from Roentgen therapy are obtained in the advanced caseous lesions or those in which sinuses have formed. That is in cases which external drainage obtains. In the early hyperplastic form of the disease slower and less brilliant result follow X-ray treatment. Patients in whom the periphery of the lesion is ill-defined, edematous and actively advancing are much less favorable operative risks than when the glands have no periadenitis, are discrete and not active. In cases with and without periadenitis a tentative course of X-ray treatment is advisable, even if subsequent operation is contemplated. His conclusions are: First, the efficacy of X-ray treatment in tuberculous adenitis has been demonstrated in surgical clinics, over 1,500 successful cases having been reported. Second, the surgical treatment which was orthodox before the discovery of the X-rays and their therapeutic value is still advised by large numbers of the medical profession. Third, non-surgical methods, including the X-rays, deep hyperemia and tuberculin should be tried before any case is submitted to radical operation.

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**Acute-Sinusitis:** John J. Kyle in the April number of the *Medical Council* considers the treatment of acute nasal sinus suppuration. During the past few months there has been a wave of infectious diseases frequently involving the sinuses of the nose and the upper air passages, extending from the Atlantic to the Pacific, and designated as La Grippe or Influenza. It is presumable that temperature, humidity and altitude all play some part in predisposing to the epidemicity of nasal sinus disease. As to treatment, with the exception of the maxillary sinuses, it is seldom necessary to resort to surgical methods, whereas



in the treatment of chronic suppuration surgery is usually indicated. The local treatment of a frontal and ethmoid sinus suppuration is much alike, and consists in depleting the swollen mucous membrane round about the middle turbinate body with a solution of cocain and adrenalin, about five per cent cocaine and 1 to 1,000 adrenalin. A pledget of cotton moistened with this solution is passed high up into the attic of the nose and allowed to remain ten to fifteen minutes. A suction apparatus should then be used for the mechanical emptying of the sinus, and he prefers the Brawley or De Vilbiss apparatus. After the sinuses are emptied he saturates a piece of cotton with twenty per cent of argyrol and places it high up into the attic of the nose. This should be repeated twice daily in ambulatory cases. Cases confined to bed can be given a solution of adrenalin chloride, camphor water, extract of witch hazel and normal salt solution in equal parts and this can be dropped into the attic of the nose by first having the patient hang the head over the side of the bed or couch. This solution should be dropped into the nose every two or three hours, or whenever there is a stuffiness felt in the nose. As to vaccines, stock vaccines in the absence of any bacteriological findings may be prescribed as a hit or miss proposition. An autogenous vaccine should be made. However, after pus has formed and unless good drainage is established, the vaccines will exert no influence.

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**Morphinism.** Ernest S. Bishop in the January number of *American Medicine* presents certain facts about morphinism. He believes that a majority of morphine users have been terribly wronged in a firmly rooted and widespread opinion prevalent among both medical men and the laity. This is that chronic morphinism is a morbid habit; a perverted appetite; a vice; that only he who is mentally or morally defective would allow to get a hold on him; and that its main and characterizing manifestations are those of mental, physical and moral degeneration. This was his opinion when he began work in the alcoholic and prison wards of Bellevue Hospital. But in plain English, the sufferer from morphinism has in many if not the majority of cases never experienced any enjoyment as a result of the drug and has endured indescribable agony in its non-supply. As to treatment and hope of cure, he believes that he can truthfully say that in morphinism per se we have what will before many years be recognized as one of the most definite and curable diseases in medicine. Treatment based upon the recognition and removal of the fundamental conditions as they appear in the individual case will give surprising results. Most of the past treatments have aimed at the withdrawing of morphine and bolstering up by whatsoever means were at command, the supposedly defective mentality and will power. He states emphatically that the using of morphine does not constitute morphinism, nor does the mere withdrawal of the drug constitute the cure of morphinism. The desire for morphine in the majority of cases is simply the expression of body need. The fundamental condition is the changed physiology which makes morphine a necessity for organic satisfaction and adequate carrying on of organic function. Morphinism fundamentally is a disease with variations and stages like other diseases. It has complications as do other morbid body processes, and every case is absolutely individual.

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**Emetine:** R. L. Levy and L. G. Rowntree in the *Archives of Internal Medicine* for March 15 treat of the toxicity of various commercial preparations of emetine hydrochlorid, and present these suggestions as to a rational emetine therapy. How may the toxic effects of emetine best be avoided? As the result both of laboratory and clinical observations, they suggests: 1. The administration of emetine hydrochlorid is not to be regarded as a harmless procedure. Even in therapeutic doses all effects may follow its use. 2. Individualization by close clinical

observation is indicated and is essential both for the success and safety of the treatment. Patients may differ markedly in their susceptibility to the drug and the various commercial preparations vary widely in their toxicity. These points are strikingly demonstrated by the toxicity experiments reported. 3. The treatment should be given in courses, at intervals of several days or a week. The subcutaneous route should be chosen. Individual dosage and the duration of each course must be determined by the exigencies of the case, one-third of a grain three times a day for a week or ten days is usually safe dosage in amebic infections. It is rarely necessary to give more than one and one-half grains daily. In the treatment of pyorrhea Bass and Johns advocate one-half grain daily for from three to six days and maintain that no case need have more than six days treatment. Under ordinary circumstances this seems well within the margin of safety. It must be borne in mind, however, that the administration of even relatively small doses over a long period of time may prove harmful. 4. The large dose advocated by Baermann and Heinemann is unnecessary and dangerous. 5. Intravenous injections should be employed only in extreme cases. If this mode of administration seems imperative, small doses well diluted (one-half grain in 100 c.c. salt solution) should be slowly given and the blood-pressure should be carefully observed during the injection. They also observe that the experience of Lyons with the administration of emetine by mouth precludes its use by the oral route. He found it exceedingly irritant even in small doses. Nausea, vomiting, purgation and persistent abdominal discomfort followed the ingestion of one-half grain in solution.

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**Arsenic:** In the *Journal of Infectious Diseases* for April Aaron Arkin and H. J. Casper consider the chemotherapy of tuberculosis insofar as the arsenic compounds are concerned, and summarize their conclusions as follows: Sodium arsenite in dilution of from 0.1 per cent to 0.0001 per cent and sodium cacodylate in dilution of from 2 per cent to 0.0002 per cent have no germicidal action on human tubercle bacilli in 24 hours at 37 c. Mercury cacodylate in dilutions of from 1 per cent to 0.001 per cent has a germicidal action on human tubercle bacilli in 24 hours at 37 c. This action is in all probability due to the mercury and not to the cacodylate radical. Atoxyl arsenacetin and neosalvarsan in dilutions of from 1 per cent to 0.001 per cent have no germicidal action on human tubercle bacilli in 24 hours at 37 c. These compounds representing the commonly used inorganic and organic preparations of arsenic cannot be said to have any specific action on human tubercle bacilli, and if of value in treatment of tuberculosis are so only because of their favorable influence on metabolism. That tissue compounds would produce combinations with arsenic in the animal body which might be tuberculocidal is very unlikely, for a review of the clinical literature presents no evidence of any specific action of arsenic compounds in tuberculosis. Arsenic in simple crystalline form, sodium arsenite, sodium cacodylate, arsocetin and neosalvarsan given to tuberculous animals parenterally is found in the liver, lungs, blood, kidneys, spleen and tuberculous tissues (lymph glands of guinea pigs and eye of rabbits), the concentration in all these tissues not greatly differing. No evidence of accumulation in the tuberculous tissue was obtained. Sodium stannate even in concentration as high as 1 per cent for 48 hours at 37 c. is not germicidal toward human tubercle bacilli.

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**Blood-letting:** Beverley Robinson in the *New York Medical Journal* for April 15 refers to the value of blood-letting in uremia, and details a case in which the patient was comatose and had convulsions, the case being one of chronic interstitial nephritis. The conclusion was that the best immediate treatment was blood-letting, but instead of venesection leeches were applied to the mastoids. The effect



of a dozen leeches was most satisfactory, as very soon after their application consciousness returned and there were no more convulsions. He saw the patient again in consultation a week later, and at that time he seemed remarkably well and comfortable. He comments on the difficulty of obtaining leeches in the drug stores today, because they are so seldom used either by general practitioners or specialists. To him this is truly lamentable, as he is confident that their use would save not a few lives and avoid many operations. In uremia, cerebral hemorrhage and pneumonia they would often be invaluable. In acute aural and ocular inflammations many operations would be prevented, likewise in attacks of appendicitis. Obviously\* they should be applied intelligently. Not simply for a disease, but for a patient with a disease. The local effect of the leeching is, he believes, preferable to venesection in some of these instances if not all—possibly excepting pneumonia. Despite the fact that anatomically he cannot explain his statement satisfactorily, by reason of direct connection of the veins locally with the organs affected, he feels confident that the same amount of blood withdrawn from near the diseased organ is more useful than if it be taken by opening a vein at the elbow. Blood-letting in uremia gets rid of the poison in the blood whatever it may be quicker than any other method. Sometimes it is wise to follow it with saline infusion or a rectal saline injection with suitable tube.

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**Hay-Fever.**—Solomon Strouse and Ira Frank, Chicago (*Journal A. M. A.*, March 4, 1916), after noticing the fallacies of statistics, discuss the treatment of hay-fever by pollen extracts and vaccines. They give a table of the reports in the literature of the pollen extract method, and say that so far as these statistics prove anything, they show that as used up to now pollen extracts have a possibility of cure and have apparently relieved a majority of cases. The pollen origin of hay-fever has been demonstrated, and it is difficult to reconcile good results from bacterial vaccines in a disease the symptoms of which are essentially those of a pollen protein sensitization. Striking results, however, have been reported from vaccines, and it is possible that bacteria may play a secondary but important part. The conception of hay-fever as a pollenosis associated with a bacterial subinfection can be used to explain the partial relief obtained by bacterial vaccines and by pollen extracts. In reporting their own experiences, they first give the results with the bacterial vaccines. All the autogenous vaccines were made from blood cultures on agar taken from inside the nose. In most instances a pure culture of *Staphylococcus albus* was obtained. More rarely the pneumococcus and *Micrococcus catarrhalis* were found. Thirteen patients were treated, five for early June fever, and eight for autumnal fever. Of the five, two received some relief, one was greatly relieved, and two were practically cured for the season. One of these relapsed and then bacterial injections failed. Of the eight patients with autumnal hay-fever, one was able to stay in the country and ride in automobiles without trouble and claimed she never had had so good a summer. She was always comparing her case with those of friends taking pollen extracts and thought she was better off. In five the attacks were lightened and shortened, and two had no relief. The treatment with pollen extract was given in sixteen cases as a prophylactic and five were treated during the attack. None were reported as cured, but seven of the prophylactic cases were greatly relieved, and in six there was some relief. Of those treated during the attack, three were greatly relieved and two to a lesser extent. Three patients who had been free from symptoms had severe attacks of hay-fever during a hot spell in September, and were very remarkably relieved by vaccines. The authors hold that the combined treatment seems to be supported by their results; whether it can be equally valuable as a prophylactic is yet to be determined.

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## NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Radium Bromide, W. L. Cummings Chemical Company.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Radium Carbonate, W. L. Cummings Chemical Company.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Radium Chloride, W. L. Cummings Chemical Company.—It complies with the standards of the N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Radium Sulphate, W. L. Cummings Chemical Company.—It complies with the standards of the N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Borcherdt's Dri-Malt Soup Extract.—A powder obtained by adding potassium carbonate 1.1 Gm. to each 100 Gm. of Borcherdt's Malt Extract and evaporating. Borcherdt Malt Extract Co., Chicago.

Borcherdt's Dri-Malt Soup Extract with Wheat Flour.—A powder obtained by evaporating 100 Gm. Borcherdt's Malt Soup Extract and 50 Gm. wheat flour made into a paste. Borcherdt's Malt Extract Co., Chicago.

Borcherdt's Finished Malt Soup Powder.—A powder obtained by evaporating 100 Gm. Borcherdt's Malt Soup Extract, 50 Gm. wheat flour, made into a paste and 330 Gm. milk. Borcherdt's Malt Extract Co., Chicago (*Jour. A. M. A.*, March 11, 1916, p. 815).

Saubermann Radium Emanation Activator.—An apparatus for the production of radioactive drinking water by the action of radium sulphate. Each apparatus is designed to furnish about 500 Cc. radioactive water per day. The exact daily capacity and efficiency are guaranteed and are stated for each apparatus. The following strength generators are offered:

Saubermann Radium Emanation Activator, 5,000 Mache Units.—An apparatus which imparts about 1.8 microcurie (5,000 Mache Units) to about 500 Cc. water daily.

Saubermann Radium Emanation Activator, 10,000 Mache Units.—An apparatus which imparts about 3.6 microcurie (10,000 Mache Units) to about 500 Cc. water daily.

Saubermann Radium Emanation Activator, 20,000 Mache Units.—An apparatus which imparts about 7.2 microcurie (20,000 Mache Units) to about 500 Cc. water daily.

Sauberman Radium Emanation Activator, 50,000 Mache Units.—An apparatus which imparts about 18 microcurie (50,000 Mache Units) to about 500 Cc. water daily. Radium Limited, U. S. A., New York (*Jour. A. M. A.*, March 18, 1916, p. 893).

During March the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Radium Limited, U. S. A.:

Saubermann Radium Emanation Activator, 5 000 Mache units,  
10,000 Mache units, 20,000 Mache units, 50,000 Mache units.

Standard Oil Company of Indiana:

Stanolind Liquid Paraffin.

Knoll & Co.:

Styracol Tablets, 5 gr.

Tannalbin Tablets, 5 gr.



## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred twenty-eighth regular meeting of the Academy was held Friday, March 24, 1916, at the Cleveland Medical Library, the Chairman, W. E. Bruner, in the chair.

The regular program follows:

**1. The Importance of the Early Recognition of Syphilis and Its Treatment During the First Six Months After Infection, by W. T. Corlett.**

The speaker exhibited a series of lantern slides, showing the initial lesion of syphilis, from the Hunterian chancre to less typical forms, and emphasized the difficulty of branding a lesion as syphilitic in some cases.

The use of the dark fluid illuminator and search of the lesion for spirocheta in doubtful cases was recommended. (Doctor Corlett's paper is published in full in this issue of the Journal.)

**2. Involvement of the Nervous System In Early Syphilis, by Dr. Udo J. Wile, Professor of Dermatology, University of Michigan.**

The speaker reported a series of cases of early syphilis, which on gross examination showed no lesions of the central nervous system, but which on careful examination clinically, and of the spinal fluid, shows unmistakable involvement. The research was suggested to the speaker by the fact that the cerebrospinal axis is one of the most delicate structures of the human body, and it seemed inconceivable to him that there should not be early involvement in a large number of cases, even though the involvement be slight enough to cause the development of no symptoms, and show no recognizable lesions in gross physical examination.

The method used was to subject every syphilitic patient to an extremely careful physical examination, especially with reference to cranial nerve involvement, and to routine examination of the spinal fluid. In the latter the positive cell count, Noguchi test, and positive Wassermann test were taken as proof of an inflammatory process. The functions of the eighth and the second and third cranial nerves were examined very carefully.

Involvement of the cerebrospinal nervous system was found in an extremely large per cent of the total early syphilitic cases studied. The present conception that neurological changes are generally a late feature of syphilis are therefore not strictly true.

An interesting series of experiments were also reported in which the speaker had succeeded in growing the spirocheta in rabbits' testicles by injection of brain substance from a general parietic. In the lesions the spirochetæ were recognizable within the first week after inoculation.

The question why the spirochetæ in one patient cause the development of a tabes or general paresis and in another the development of a luetic aortitis is difficult to answer. It may be that there is a parietic strain of the spirochetæ. There may be a number of strains of the organism, each with a predilection for a certain anatomical system.

**3. The Intraspinal Treatment of Neurosyphilis With Standardized Salvarsanized Serum, by Willard C. Stoner.**

The speaker reported a number of cases in which the treatment had been used, in a large number of which encouraging results were obtained. Some of the cases failed to respond to treatment. The best results are to be expected in selected cases. (Doctor Stoner's paper is published in this issue of the Journal.)

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## SPECIAL MEETING

A special meeting of the Academy was held Friday, March 31, 1916, at the Cleveland Medical Library, the Chairman, W. E. Bruner, in the chair. The program follows:

**1. The Theory and Practice of Making Vaccines and Serums, by Severance Burrage, Biologist of Ely Lilly and Company (formerly Professor of Sanitary Science, Purdue University).**

Approximately a century ago, Edward Jenner introduced vaccination for small pox. He had noticed that milk maids who had lesions of cowpox on their hands did not become infected with smallpox. Inoculation of individuals with cowpox has since come to be recognized as an effective means of preventing infection with smallpox. Just what process takes place in individuals so inoculated with cowpox is not known, but the fact that it furnishes protection against smallpox cannot be doubted. Just what the character of the germ causing the disease is, not known, and indeed, the germ is not essential.

Later we find Pasteur working with anthrax and rabies. His method of treatment for rabies is still used with certain modifications. Again we come to vonBehring, who brought out diphtheria and antitoxin. He found that by the use of the immunized serum he could prevent death in an animal suffering from diphtheria following an injection of diphtheria toxin.

Other organisms have been experimented with in the hope of producing an efficient antitoxin. However, it has been found in these cases that there is not enough toxin formed to permit of the possibility of securing an antitoxin of sufficient strength to combat the disease.

The principle of antiserum production, consists of injecting killed cultures of various organisms into animals, with the result that antibodies of some type are formed which are hostile to the organism in question or its products.

Metschnikoff first observed that white blood cells would engulf and ingest foreign bodies and bacteria. He believed that the discovery of this process would have a large bearing on the future development of immunization and so it has. For example it has been found that by injecting killed organisms of a particular type, into an animal, for instance the typhoid bacillus, the white blood cells develop an increased appetite for this organism. This principle is the basis of the development of bacterial vaccines. These bacterial vaccines are not to be confused with sera. The former consist of suspensions of killed bacteria in normal saline.

The method of preparation of the smallpox vaccine, is first to select a healthy calf, weighing from 200 to 225 pounds. The animal is put in quarantine and subjected to several tuberculin tests. The animal, having passed these, is carefully cleansed with soap and water and shaved. Only female calves are used, because they are more cleanly than the male. The shoulders of the calves are then scarified and the vaccine rubbed in. The animal is then sent to the incubation room, where it is kept for from 5 to 6 days, or until the pustules are ripe. Later the pustules are curetted off. Government laws say that the animal must be killed 24 hours after the curettment and the internal organs examined for disease. The curetted material is ground up with 50 per cent glycerine, filtered several times, and is then sucked up into capillary tubes which are sealed.

The preparation of diphtheria antitoxin consists of injecting a small dose of diphtheria toxin into horses. The dose is progressively increased until the horse has received several hundred times the maximum fatal dose. This process takes from 7 to 8 months. When the horse has been thoroughly immunized, as determined by trial bleedings and tests, the animal is bled. Potassium oxalate is used to prevent the blood from



clotting. The serum is then allowed to separate off, is pipetted into a separate flask and mixed with ammonium sulphate, the latter precipitating the globulins, with which the antitoxin bodies are believed to be linked. These are then collected on filter paper, scraped off, and put into a dialyzer to free them from all traces of ammonium sulphate. This process takes from eight to ten days. The substance is then passed through germ-free filters. Its potency is tested and standardization completed by injecting it into guinea pigs. The unit of diphtheria antitoxin is taken as that dose of antitoxin which will protect a guinea pig weighing 250 grams from a minimal fatal dose of diphtheria toxin.

Government inspection in all of these processes is extremely severe. Surprisingly few complaints are received from users of the vaccines.

The speaker interjected his paper with a number of interesting stereopticons. Among them was one showing fields of belladonna which had been planted since the European supply was cut off by the war.

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### EXPERIMENTAL MEDICINE SECTION

The eighty-seventh regular meeting of this section was held Friday, March 10, 1916, at the Cleveland Medical Library, with H. T. Karsner, M. D., in the chair.

Program:

(Lantern Demonstration.)

1. Eye Function and Light, by P. W. Cobb, M. D.

(This paper was published in the March, 1916, issue of *Cleveland Medical Journal*.)

2. Myth and Monster, by N. W. Ingalls, M. D.

3. Some Recent Experiments on Vision in Animals: Their Bearing on Theories of Evolution, by H. M. Johnson, Ph. D.

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### CLINICAL AND PATHOLOGICAL SECTION

The one hundred and fourteenth regular meeting of the Clinical and Pathological Section was held Friday, March 3, 1916, at the Cleveland Medical Library. Chairman Frank J. Geib, M. D.

Program:

1. Some Psychoses Connected with Pregnancy, by C. W. Stone, M. D.

2. Congenital Club Feet, by Geo. Bauman, M. D.

(This article appears in full in this issue of the *Journal*.)

3. First Aid in Wounds from Rabid Animals, by L. W. Childs, M. D.

4. Carcinoma of Cardia. Report of Three Cases with Specimen of One, by F. C. Oldenburg, M. D.

5. Birth of Twins by Caesarian Section. Report of Case. By E. P. Monaghan, M. D.

6. Report of Genitro-Urinary Cases:

- (1) Foreign Body in Penis for twenty-six years.
- (2) Dribbling in an adult—cured by circumcision.
- (3) Report of two cases of diverticulum of urethra.
- (4) Report of two cases of psoriasis mucosa urethrae.

By S. Englander, M. D.

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## OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SECTION

The eighty-fourth regular meeting of the Ophthalmological and Oto-Laryngological Section was called to order at 8:25 P. M., March 24, 1916. Dr. L. K. Baker took the chair until the arrival of Dr. Wm. B. Chamberlin.

The minutes of the last meeting were read and approved.

### Presentation of Cases

Dr. L. K. Baker presented a child about nine years old with a coloboma of the upper lid of the right eye. The defect covered about one-third of the lid near the nasal side and was such that when the eye was closed and the cornea turned upward there was still a small area at the lower inner margin of the cornea exposed to the air. At this point there is a white slightly raised area. The eye is otherwise normal.

Dr. H. H. Brelsford presented a man who, following a penetrating wound in the right eye with laceration of the iris, has developed a large cyst of the iris filling most of the anterior chamber in the upper inner quadrant. There is also a second small cyst the size of a pinhead directly at the margin of the iris above.

Dr. Edward Lauder showed a patient in whom a piece of steel had been removed from the right eye through a scleral incision in the outer lower quadrant. The steel passed through the lower portion of the cornea and pierced the iris, then passed through the lower edge of the lens into the vitreous. The opening in the anterior capsule was closed by adhesion of the iris, and the lens so far has not developed any cataract except directly in the track of the steel.

### Program

#### 1. Presentation of Patient with Coloboma of the Eyelid, by L. K. Baker, M. D.

The program of the evening was opened by Dr. Baker, who gave a detailed report of the child with coloboma of the eyelid and reviewed the literature on the subject.

The paper was discussed by Drs. Lauder and J. E. Tuckerman. Dr. Lauder agreed that a plastic operation on the lid ought to improve the condition and should be advised.

#### 2. Endonasal Operations on the Lachrymal Sac, with Report of a Case, by Wm. B. Chamberlin, M. D.

Dr. Wm. B. Chamberlin gave a very interesting paper on Endonasal Operations on the Lachrymal Sac with Report of Cases. Dr. Chamberlin prefers West's operation to the later modification by Yankauer and Mosher.

In discussing the paper Dr. Lauder asked if all these cases had been given a thorough trial with the use of probes. He thought this always ought to be done before any more radical operation is undertaken. Dr. Chamberlin in closing said that they had all been given a thorough trial and that he was recommending the operation only for those cases which failed of cure by the use of probes, and thought it was preferable to the operation of total extirpation of the sac.

#### 3. Presentation of Two Patients Showing Result After Removal of Steel from Eye with Magnet, by Edward Lauder, M. D.

Dr. Lauder proceeded to the discussion of the two patients showing results after removal of steel from the eye. The patient, who was present, showed the ease with which a penetration of the eyeball with a piece of steel can be overlooked. In this patient it was not until about a week after the injury when pain began to develop in the eye that the foreign body was suspected. Up to this time the doctor had interpreted the adhesion of the iris to the cornea at the lower margin of the lens as a



small posterior synochia due to a previous iritis. The presence of steel was determined by the magnet and definitely located by X-ray prior to removal by scleral incision.

The second patient, who was not present, was one who had presented himself two and one-half months after an injury to the eye. The only external evidence of injury was a dilated pupil with pain and loss of vision. This steel was located by X-ray imbedded in the posterior portion of the sclera. After two different attempts at removal by magnet with scleral incision, removal of the eye was advised, but it was not until several months later that the patient consented. At this time the doctor made another attempt to remove by magnet, and failing, enucleated the eye. He then attempted to see if it were possible to pull the steel from the enucleated eye, but it was so firmly imbedded in the sclera that he was unable to dislodge it with the magnet. This shows that in certain cases where the piece of steel is small and firmly imbedded in the sclera, it is almost useless to make repeated attempts at removal.

The paper was discussed by Drs. W. H. Tuckerman and S. H. Monson.

#### **4. Impressions from Ear, Nose and Throat Post-graduate Work in Eastern Schools, by C. L. McDonald, M. D.**

Dr. C. L. McDonald's paper covered the subject well. He was especially impressed with Mosher's method of curetting out the ethmoid cells, although in using this method an X-ray always should be had prior to operation, as there is some danger to the orbiform plate in opening the frontal sinus if it happens to be shallow. He considers that Dr. Yankauer's method for closing the eustachian tube when used in the cases for which it was originally devised is a distinct success. The primary blood clot closure in simple mastoiditis is being extensively used with claims for good results, although he could not personally follow the cases sufficiently closely to pass judgment on how many healed directly and how many broke down, necessitating later drainage. He reported also that one of the operators was doing all his submucous resections without the use of any packing. He was not ready at this time to advocate this method.

The paper was discussed by Drs. Wm. B. Chamberlin and W. H. Tuckerman. Dr. Chamberlin said he was still in favor of packing cases of submucous resections. Admitting that there is no suppuration between the flaps, the formation of a clot between the flaps on healing was bound to make a thicker septum than when the flaps are maintained in apposition until danger of hematoma is past.

Present: Drs. L. K. Baker, Hartzell, Wm. B. Chamberlin, Opperman, Metz, Mussun, Brookhart, Brelsford, Lauder, McDonald, Jos. Neuberger, Ralston, W. C. Tuckerman, W. H. Tuckerman, J. E. Tuckerman and Dr. Moore of Akron.

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#### **COUNCIL MEETING**

At a meeting of the Council of the Academy of Medicine held Tuesday, April 11, 1916, at the University Club, the following members were present, the president, Dr. Bruner, in the chair: Drs. Follansbee, Moorehouse, Updegraff, Bernstein, Sawyer, Weir, Karsner, Taylor, Perkins, Chamberlin, J. J. Thomas and J. E. Tuckerman.

The minutes of the last meeting were read and approved.

Dr. Moorehouse reported that Dr. N. P. McGay had withdrawn his request for resignation.

On motion the resignation of Dr. Chas. H. Hay was accepted.

A request for resignation was received from Dr. Jacob Hyman, who has located permanently in California. On motion his resignation was accepted.

A request for resignation of Dr. H. E. Mitchell was referred to the membership committee.

On motion Dr. M. W. Carpenter was transferred to non-resident membership from the Lake County Medical Society.

On motion Dr. I. W. Seward was received in transfer as an active member from the Clark County Medical Society.

The roster of those suspended for non-payment of dues was read. This year there were thirty-nine active members unpaid to date; against thirty-two last year.

On motion the names of the following applicants for active membership were ordered published.

Dr. George A. Allison.

Dr. L. H. Heabler.

Dr. J. E. Linden.

On motion Dr. M. J. Miller was transferred to non-active membership because of his absence at Saranac Lake Sanitarium for his health.

A communication from Dr. T. K. Gruber was read. On motion the secretary was directed to refund \$4.00 to Dr. Gruber accompanied by a statement of his right to transfer to the medical society of Detroit, Michigan, without payment, having already paid and been certified from another local and state society.

For the information of the Council the secretary read the information and data which the secretary's office has relating to the Co-operative Hospital Association.

The Council then proceeded to consider the question of amendments to the constitution and by-laws, after which the committee was requested to report at the next meeting proposals embodying the points agreed upon.

The Council adjourned to meet on Tuesday, May 2, 1916.

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**Hay-Fever.**—Harold Wilson, Detroit (*Journal A. M. A.*, March 4, 1916), reports a trial of calcium chlorid in the treatment of hay-fever during the season of 1915. How it acts in this disease is undetermined as yet, and it is therefore not on a perfectly satisfactory basis. As much other useful therapy, however, has no better foundation, there is no reason why we should not utilize its advantages. Twenty-two of his twenty-six patients were treated exclusively with calcium chlorid. Four who had been under treatment with pollen injections received it after they had failed to reduce the symptoms, and in no case did any patient take the drug for more than eight or ten weeks before the time of the expected attack, and in most cases the period was much shorter. In some of the more favorable cases the relief was almost immediate. In most cases the calcium chlorid was prescribed as follows: Calcium chlorid, crystals, 100 gm.; distilled water to make 500 c.c. M. Sig.: Take one teaspoonful in sufficient water during or after each meal. This gives the patient about 3 gm. calcium chlorid daily. The crystalline salt is preferred to the anhydrous as making a cleaner and clearer solution. There was no serious difficulty in taking the drug as prescribed, though one or two complained of gastric disturbances and had the dose lessened. Wilson concludes that: 1. Some hay-fever patients taking not less than 3 gm. of calcium chlorid daily, even for a short time, are practically relieved from all hay-fever symptoms. 2. Calcium chlorid may be taken in doses of 3 gm. daily for an indefinite time without any apparent injury. 3. It is not indispensable in all cases for a hay-fever patient to take calcium chlorid over a long period of time in order to secure relief. 4. Calcium salts may be given, even when the nature of the patient's sensitization is not known. 5. The clinical results from the administration of calcium chlorid in cases of hay-fever are such as to warrant its further trial.

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## ROSTER OF OFFICERS AND MEMBERS OF THE ACADEMY OF MEDICINE OF CLEVELAND FOR 1916

The list published below includes only those whose dues were received by the Secretary-Treasurer. Errors in name or address should be reported to J. E. Tuckerman, 733 Osborn Building, at once to aid in prompt correction.

This list as published constitutes the mailing list of The Journal, and any active member failing to receive his Journal is requested to write for a copy. No name has been intentionally omitted. If your name does not appear, kindly notify the Secretary.

### Officers

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First Vice-President

R. K. UPDEGRAFF, 1916

Second Vice-President

R. E. SKEEL, 1916

Ex-Presidents

J. J. THOMAS, 1914

C. F. HOOVER, 1915

Secretary-Treasurer

J. E. TUCKERMAN, 1912, 1913, 1914, 1915, 1916

Chairmen of Sections

F. J. GEIB, Clinical and Pathological

HOWARD T. KARSNER, Experimental Medicine

WM. B. CHAMBERLIN,

Ophthalmological and Oto-Laryngological

E. R. SELZER, Medico-Pharmaceutical

SAMUEL BURROWS, Veterinary

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G. W. MOOREHOUSE, Membership

LESTER TAYLOR, Program

Trustees

G. E. FOLLANSBEE, 1916

E. O. HOUCK, 1914, 1915, 1916

J. P. SAWYER, 1915, 1916, 1917

W. H. HUMISTON, 1915, 1916, 1917

W. H. WEIR, 1916, 1917, 1918

S. L. BERNSTEIN, 1916, 1917, 1918

### Standing Committees

Legislative Committee

C. E. FORD

R. H. BISHOP, JR.

C. W. EDDY

Two appointments held open for special work  
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Committee on Public Health

R. G. PERKINS

J. J. R. MACLEOD

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Program Committee

LESTER TAYLOR

H. A. BERKES

P. J. HANZLIK

W. H. TUCKERMAN

WM. P. ALPERS

R. E. ROUECHE

J. E. TUCKERMAN

**Secretaries of Sections**

H. A. BERKES, Clinical and Pathological

P. J. HANZLIK, Experimental Medicine

W. H. TUCKERMAN,

Ophthalmological and Oto-Laryngological

WM. P. ALPERS, Medico-Pharmaceutical

R. E. ROUECHE, Veterinary

**Non-Active Members**

Campbell, O. B.....647 Euclid Ave.

Dutton, C. F.....4816 Franklin Ave.

Herrick, Wm. H.....746 Euclid Ave.

Miller, M. J.....Saranac Lake, N. Y.

Webster, H. H.....4234 Pearl Rd.

**Active Members**

(Paid up for 1916)

Abbott, William J.....The Lennox Bldg.  
Adams, Thomas.....5018 Broadway Ave.  
Aeberli, Fred.....8514 Wade Park Ave.  
Albl, Charles J.....4962 Broadway Ave.  
Albl, M. A.....5074 Broadway Ave.  
Anderson, Alfred W.....18401 Detroit Ave.  
Anderson, John.....10528 Wade Park Ave.  
Arnold, G. D.....8812 Carnegie Ave.  
Austin, J. Bruner.....10406 Euclid Ave.

Bachman, U. M.....1683 E. 82nd St.  
Bailey, Robert.....1542 E. 55th St.  
Baker, L. K.....The Lennox Bldg.  
Baldwin, A. M.....11226 Superior Ave.  
Banker N. S.....E. 105th St. & Superior Ave.  
Bard, I. W.....6318 Lorain Ave.  
Barger, Wm. T.....Dansville, N. Y.  
Barricelli, G. A.....The Rose Bldg.  
Bauman, George I.....1021 Prospect Ave.  
Baumoel, S.....3203 Superior Ave.  
Beach, Paul E.....1803 E. 82nd St.

Becker, H. A.....New England Bldg.  
Bee, Chas. Howard.....The Rose Bldg.  
Bell, Ward C.....14520 Detroit Ave.  
Benner, Wallace J.....16803 Detroit Ave.  
Bennett, G. U.....5711 Lexington Ave.  
Berger, Samuel S.....  
.....Anisfield Bldg., Huron Rd. & E. 9th St.  
Berkas, H. A.....1021 Prospect Ave.  
Bernstein, S. L.....The Lennox Bldg.  
Biggar, H. F.....1110 Euclid Ave.  
Biggar, H. F., Jr.....1110 Euclid Ave.  
Bill, Arthur H.....1021 Prospect Ave.  
Binckley, A. W.....5384 St. Clair Ave.  
Birge, Russell Hall.....1021 Prospect Ave.  
Bishop, R. H., Jr.....The Rose Bldg.  
Biskind, I. J.....2350 E. 55th St.  
Black, C. A.....8451 Broadway Ave.  
Black, Davidson.....W. R. U. Medical College  
Black, J. F.....Mentor Headlands, Painesville, O.  
Blahd, M. E.....Anisfield Bldg., E. 9th & Huron Rd.  
Bliss, H. C.....2705 Woodland Ave.



## Active Members—Continued

Bondy, E. R.	746 Euclid Ave.	Davis, H. L.	The Schofield Bldg.
Bonta, M. B.	The Rose Bldg.	Dawson, Archibald N.	The Lennox Bldg.
Borts, M.	9733 Logan Court	Deacon, E. M.	The Rose Bldg.
Bourn, E. L.	Brecksville, O.	Dempsey, J. H.	784 E. 152nd St.
Boyd, W. R.	2210 E. 105th St.	Dexter, Richard	The Rose Bldg.
Brainerd, H. C.	5152 Superior Ave.	Dittrick, H.	1021 Prospect Ave.
Breck, Theo. B.	653 E. 105th St.	Doolittle, W. F.	9510 Euclid Ave.
Brelsford, H. H.	The Rose Bldg.	Droege, Robert C.	United Bank Bldg.
Brett, J. H.	Cedar Ave. and E. 105th St.	Drysdale, H. H.	The Rose Bldg.
Bretz, I. S.	7909 Euclid Ave.		
Briggs, C. E.	The Lennox Bldg.	Edwards, E. P.	The Rose Bldg.
Brody, B. I.	2304 E. 55th St.	Elliott, R. W.	Euclid Ave. & E. 105th St.
Brokaw, Wm. F.	2102 E. 55th St.	Engel, R. C.	4607 Broadway Ave.
Brookhart, Leslie S.	970 E. 72nd St.	Englander, Simon	1021 Prospect Ave.
Brooks, E. R.	2152 E. 89th St.	Epstein, J. W.	4502 Woodland
Brudno, Emil M.	The Rose Bldg.	Evans, Samuel L.	3229 E. 93rd St.
Bruening, A. H.	2838 W. 25th St.		
Bruner, Wm. E.	New England Bldg.	Feil, Harold	1021 Prospect Ave.
Bubis, Jacob L.	1725 E. 82nd St.	Fisher, Ralph E.	The Rose Bldg.
Bucher, Walter M.	4344 Pearl Rd.	Flidner, G. B.	1821 W. 25th St.
Buel, J. J.	New England Bldg.	Foldes, D.	1021 Prospect Ave.
Buffett, G. P.	811 Jefferson Ave.	Follansbee, G. E.	New England Bldg.
Bunts, Frank E.	1021 Prospect Ave.	Fox, J. C.	13922 St. Clair Ave.
Burdick, H. J.	4415 Cedar Ave.	Francisci, M.	3242 Lorain Ave.
Burke, T. A.	The Rose Bldg.	Frankie, F. C.	Woodland Ave. & E. 55th St.
		Freedman, E. F.	127 Greenwood, Battle Creek, Mich.
Calkins, T. J.	8912 Superior Ave.	Fried, Amos E.	1764 E. 55th St.
Campbell, A. D.	7503 Superior Ave.	Friedrich, M.	The Rose Bldg.
Carey, M. J.	1952 E. 105th St.	Friend, John M.	2803 Walton Ave.
Carlisle, I. C.	720 E. 105th St.	Fritch, J. C.	W. 25th St. & Bridge Ave.
Carothers, C. J.	2047 E 9th St	Fry, R. D.	The Rose Bldg.
Carter, E. P.	2275 Tudor Drive	Fullerton, Wm. D.	1021 Prospect Ave.
Castle, Morrison H.	The Rose Bldg	Furrer, A. F.	1110 Euclid Ave.
Casto, Frank M.	The Rose Bldg.	Furrer, Helen Hempstead	1890 E. 97th St.
Cerri, Nicola	Superior Bldg.		
Chamberlain, Webb P.	7405 Detroit Ave.	Gallagher, F. J.	The Schofield Bldg.
Chamberlin, Wm. B.	1021 Prospect Ave.	Gallagher, J. V.	The Schofield Bldg.
Cheetham, Arthur M.	13010 Miles Ave.	Gamble, John K.	1302 E. 84th St.
Childs, L. W.	1110 Euclid Ave.	Garber M.	6204 St. Clair Ave.
Christie, C. D.	Lakeside Hospital	Garrett, E. W.	10509 Euclid Ave.
Civins, Albert I.	E. 55th St. & Woodland Ave.	Geib, F. J.	1021 Prospect Ave.
Clapp, Harold T.	The New England Bldg.	Gerstenberger, H. J.	1021 Prospect Ave.
Clark, F. S.	The Rose Bldg.	Gill, Wm. C.	1021 Prospect Ave.
Clark, Wm.	7803 Cedar Ave.	Gittlesohn, R.	4005 Woodland Ave.
Clarke, Robert	Euclid-Doan Bldg.	Glass, Geo. F.	13491 Euclid Ave.
Cogan, J. E.	The Rose Bldg.	Goehle, Otto L.	The Lennox Bldg.
Cohen, Arnold	210 Reserve Bldg.	Golfinger, J.	The Rose Bldg.
Cohen, Samuel B.	E. 105th St. & Superior Ave.	Goodman, I. J.	2050 W. 25th St.
Cole, H. N.	2047 E. 9th St.	Goodwin, E. M.	10403 St. Clair Ave.
Colvin, B. B.	11214 Superior Ave.	Graber, C. Lee	15703 Detroit Ave.
Connell, A. E.	7113 Lexington Ave.	Greenwald W. C.	3814 Library Ave.
Cook, A. J.	3323 E. 55th St.	Grossman, Jos. H.	452 Eddy Rd.
Cook, J. E.	1950 E. 70th St.	Gruber, Thos. K.	Harper Hospital, Detroit, Mich.
Coplan, M.	3422 Lorain Ave.	Gunsolly, W. N.	2084 E. 46th St.
Coppedge, E. P.	4726 Superior Ave.		
Corlett, W. T.	3618 Euclid Ave.	Haefele, G. L.	1520 Clark Ave.
Corrigan, Frank P.	The Rose Bldg.	Haldy, Walter A.	The Schofield Bldg.
Corrigan, John F.	11020 Superior Ave.	Hall, C. A.	1021 Prospect Ave.
Costello, T. A.	Wade Park & E. 107th St.	Hamann, C. A.	1021 Prospect Ave.
Cowgill, W. W.	8507 Wade Park Ave.	Hammond, A. P.	7412 Woodland Ave.
Cox, E. H.	2047 E. 9th St.	Handerson, H. E.	1924 E. 66th St.
Coy, N. L.	9720 Madison Ave.	Hannum, B. G.	The Caxton Bldg.
Crawford, C. C.	10312 St. Clair Ave.	Hannum, E. A.	The Rose Bldg.
Crile, Geo. W.	1021 Prospect Ave.	Hannum, Eugene S.	3076 W. 51st St.
Cross, James A.	9335 Miles Ave.	Hanson, D. S.	3290 E. 55th St.
Crowell, W. S.	1274 Main Ave.	Hanzlik, Paul J.	W. R. U. Medical College
Crumrine, H. C.	5606 Euclid Ave.	Harpster, C. L.	12302 Superior Ave.
Cummer, Clyde L.	The Rose Bldg.	Harris, Kate Johnson	96 Windemere, E. Cleveland
Curtis, Nicholson F.	2045 Adelbert Rd.	Hartzell, H. J.	9402 Madison Ave.
Cutler, F. E.	The Rose Bldg.	Hastings, Kent K.	Rocky River, O.
		Heidler, G. K.	7610 Kinsman Rd.
		Heimlich, D.	The Rose Bldg.
		Henry, Arthur S.	2225 E. 82nd St.
		Herkner, Henry A.	928 E. 79th St.
		Herrick, F. C.	The Rose Bldg.
		Herrick H. B.	Euclid Ave. & E. 105th St.
		Hickin, F. W.	14th St. & Clark Ave.
Darby, J. C.	1077 E. 105th St.		
Davidson, J. F.	3002 Cedar Ave.		
Davis, H. H.	1730 W. 25th St.		



# Active Members—Continued

Hill, Lyle S.....	1021 Prospect Ave.	Lueke, A. W.....	1780 E. 55th St.
Hill, Walter C.....	1021 Prospect Ave.	Lupeson, Hyman.....	6408 St. Clair Ave.
Hitchings, F. W.....	10406 Euclid Ave.		
Hobson, John F.....	17618 Detroit Ave.	McDonald, C. L.....	Anisfield Bldg.
Hobson, W. S.....	1021 Prospect Ave.	McGannon, A. C.....	6603 Lorain Ave.
Hole, Charles M.....	8920 Cedar Ave.	McGee, J. B.....	10502 Wade Park Ave.
Hoover, C. F.....	The Rose Bldg.	McMichael, J. C.....	10502 St. Clair Ave.
Horne, E. C.....	9011 Broadway Ave.	McNamara, Frances X.....	8908 Superior Ave.
Hosick, W. A.....	10631 Euclid Ave.	McNamee, E. P.....	14623 Detroit Ave.
Houck, E. O.....	4911 Franklin Ave.	McPeck, E. E.....	8303 Hough Ave.
Howard, A. B.....	The Rose Bldg.		
Howland, A. P.....	The Colonial Arcade	MacFarland, Chas. H.....	Cleveland City Hospital
Hribal, W. F.....	2363 E. 85th St.	MacLeod, Geo. D.....	1556 Addison Rd.
Humiston, W. H.....	The Rose Bldg.	Macleod, J. J. R.....	W. R. U. Medical College
Hutchins, Fannie C.....	The Rose Bldg.		
Hyde, A. G.....	Cleveland State Hospital	Manley, O. T.....	The Rose Bldg.
Hyde, Wm. H.....	8411 Clark Ave.	Manley, R. M.....	The Schofield Bldg.
Ingalls, Norman W.....	W. R. U. Medical College	Manning, W. J.....	1412 W. 65th St.
Ingersoll, J. M.....	1021 Prospect Ave.	Marine, David.....	W. R. U. Medical College
Irwin, A. F.....	2219 Fairmount Rd.	Maschke, Alfred S.....	1021 Prospect Ave.
		Masenheimer, H. W.....	New England Bldg.
Jacobs, P. A.....	The Rose Bldg.	Maska, John E.....	2184 W. 14th St.
Jenkins, Alfred A.....	1721 E. 55th St.	Medlin, W. A.....	3316 W. 25th St.
Jenkins, Henry.....	1845 E. 75th St.	Merriam, Walter H.....	1021 Prospect Ave.
Jones, Arthur S.....	1021 Prospect Ave.	Merrick, W. E.....	1021 Prospect Ave.
Jones, J. Arthur.....	The Rose Bldg.	Metz, R. B.....	1021 Prospect Ave.
Jones, J. D.....	7252 Broadway Ave.	Metzenbaum, M. T.....	The Rose Bldg.
Jones, Nathaniel M.....	The New England Bldg.	Miller, Amanda H.....	2443 E. 55th St.
		Miller, Theodore.....	1836 Euclid Ave.
Kahn, M.....	The Rose, E. 55th & Central	Miner, Irving C.....	6035 Superior Ave.
Karsner, Howard T.....	2021 E. 89th St.	Mizer, Thos. J.....	Lorain & Fulton Rd.
Kelker, H. C.....	9854 Lorain Ave.	Mohrman, Frank H.....	11636 Detroit Ave.
Kelley, S. W.....	2255 E. 55th St.	Monaghan, E. P.....	3372 E. 93rd St.
Kennerdell, T. R.....	3105 W. 25th St.	Monson, S. H.....	The Lennox Bldg.
Kern, Frank J.....	6202 St. Clair Ave.	Moore, J. M.....	6726 St. Clair Ave.
Kerr, I. J.....	New England Bldg.	Moorehouse, G. W.....	1110 Euclid Ave.
Keyes, E. W.....	6503 Detroit Ave.	Morgan, J. B.....	7305 Lorain Ave.
King, Hubert C.....	1460 Lauderdale, Lakewood, O.	Morrill, Gordon N.....	2047 E. 9th St.
Klaus, E.....	1699 W. 25th St.	Morton, F. J.....	4506 Lorain Ave.
Klaus, M. H.....	4506 Lorain Ave.	Moses, K. R.....	Cleveland State Hospital
Knowlton, L. G.....	Berea, O.	Munsie, James.....	1632 E. 65th St.
Kochmit, M. G.....	4918 Broadway Ave.	Mussun, Wm. G.....	E. 71st St. & Superior Ave.
Kofron, J. V.....	5312 Broadway Ave.		
Kollar, J. B.....	1846 E. 55th St.	Nachtigall, B.....	3093 W. 25th St.
Konrad-Filipiak, Frances.....	6827 Forman Ave.	Nash, A. C.....	10502 St. Clair Ave.
Kopfstein, F. T.....	8020 Superior Ave.	Neary, E. P.....	10516 St. Clair Ave.
Kotershall, J. J.....	2841 W. 25th St.	Nelson, Chas. F.....	711 Schofield Bldg.
Krapohl, H. W.....	10508 Superior Ave.	Neuberger, John.....	1544 W 25th St.
Krause, C. R.....	1779 E. 89th St.	Newcomb, R. B.....	Illuminating Bldg.
Krebs, P. H.....	2736 W. 25th St.	Norton, F. B.....	2164 E. 46th St.
Kurlander, J. J.....	2439 E. 55th St.	Nungesser, J. J.....	7216 Superior Ave.
Kurtz, Harry B.....	The Rose Bldg.	Nuss, John C.....	5329 Fleet Ave.
Kuta, F. J.....	7326 Broadway Ave.	Nuss, Wm.....	11636 Detroit Ave.
Ladd, L. W.....	1021 Prospect Ave.	O'Connell, C. A.....	6503 Detroit Ave.
Laffer, Walter B.....	The Rose Bldg.	O'Malley, Geo. P.....	7432 Detroit Ave.
Landgrebe, Wm. A.....	10507 Superior Ave.		
Lanzer, Albert H.....	1432 Addison Rd.	Oakley, F. A.....	The Anisfield Bldg.
Large, S. H.....	The Rose Bldg.	Ochs, K. E.....	2407 St. Clair Ave.
Latimer, Jay A.....	10508 Superior Ave.	Ochsner, Rudolph J.....	2091 E. 90th St.
Lauder, Edward.....	1021 Prospect Ave.	Oldenburg, Fred C.....	3073 W. 14th St.
Lawrence, E. J.....	Nottingham, O.	O'Neill, Geo. M.....	8703 Superior Ave.
LeFevre, W. I.....	Rose Building	Ormsby, H. B.....	The Rose Bldg.
Lemon, Angeline M.....	1021 Prospect Ave.	Osborn, Wm. O.....	1021 Prospect Ave.
Lenhart, C. H.....	10924 Ashbury Ave.	Osmond, J. D.....	1021 Prospect Ave.
Lenker, John N.....	1021 Prospect Ave.	Oster, L. W.....	3403 Superior Ave.
Leslie, Hugh J.....	651 Hayden Ave.		
Levenberg, B.....	2314 E. 55th St.	Parke, Milton J.....	The Schofield Bldg.
Lewis, George H.....	8605 Detroit Ave.	Parker, C. B.....	1961 Ford Drive
Lewis, J. M.....	The Rose Bldg.	Parsons, Willis T.....	11712 Detroit Ave.
Lichty, M. J.....	1803 E. 82nd St.	Paulin, Norman O.....	5012 Euclid Ave.
Lincoln, William R.....	The Lennox Bldg.	Pav, A. F.....	2648 E. 55th St.
Lind, S. C.....	2803 Walton Ave.	Pearse, A. J.....	10427 St. Clair Ave.
Linn, Fred W.....	5226 Lorain Ave.	Perkins, R. G.....	W. R. U. Medical College
Lower, W. E.....	1021 Prospect Ave.	Perry, W. H.....	The Rose Bldg.
Lowman, J. H.....	1807 Prospect Ave.	Peskind, A.....	2414 E. 25th St.
Luck, Henry C.....	The Rose Bldg.		



## Active Members—Continued

Peskind, B.	2414 E. 55th St.	Smith, George Seeley	1021 Prospect Ave.
Peskind, S.	2414 E. 55th St.	Smith, Jos. R., Jr.	The Rose Bldg.
Peterka, Edward	5026 Broadway Ave.	Snow, Minabel	4614 Franklin Ave.
Peters, Walter	7720 Superior Ave.	Sollman, Torald	W. R. U. Medical College
Peterson, E. A.	Board of Education	Soyer, Geo. P.	1846 W. 25th St.
Phillips, John	1021 Prospect Ave.	Spenzer, J. G.	The Rose Bldg.
Pitkin, Carlos C.	10502 St. Clair Ave.	Spieer, D. M.	1406 W. 25th St.
Placak, Jos. C.	The Rose Bldg.	Spitzig, B. L.	The Rose Bldg.
Plent, J. B.	5634 Broadway Ave.	Spurney, A. F.	1021 Prospect Ave.
Pomeroy L. A.	2047 E. 9th St.	Spurney, A. B.	2584 E. 55th St.
Pope, Carlyle	1021 Prospect Ave.	Staral, J. A.	The Rose Bldg.
Powell, E. A.	The Schofield Bldg.	Stepp, Morris D.	Payne Ave. & E. 24th St.
Prendergast, D. A.	1110 Euclid Ave.	Stern, Walter G.	The Schofield Bldg.
Prudhomme, A. J.	3906 Lorain Ave.	Steuer, D. B.	3735 Woodland Ave.
		Steuer, Joseph C.	The Rose Bldg.
Quayle, John H.	1110 Euclid Ave.	Stevenson, G. W.	2196 E. 93rd St.
Quigley, W. J.	11636 Detroit Ave.	Stewart, Geo N.	W. R. U. Medical College
Quittner, Samuel S.	5512 Woodland Ave.	Stewart, J. R.	The Rose Bldg.
		Stoeltzing, C. A.	759 E. 105th St.
Rasing, W. B.	1395 E. 9th St.	Stone, Alvin A.	5511 Euclid Ave.
Ravitz, Leonard H.	2291 E. 55th St.	Stone, Chas. W.	The Rose Bldg.
Rhodes, E. B.	13425 Euclid Ave.	Stone, E. H.	5607 Euclid Ave.
Riegelhaupt, Samuel	2162 E. 55th St.	Stoner, Willard C.	1110 Euclid Ave.
Rieger, W. H.	Leader-News Bldg.	Stotter, James	1148 Euclid Ave.
Rigelhaupt, Wm.	1814 W. 25th St.	Strauss, Abraham	1021 Prospect Ave.
Robertson, Arthur E.	Cor. Broadview & W. 25th St.	Stuart, Charles C.	New England Bldg
Rockwood, Harry L.	13506 Kinsman, Lakewood, O.	Suchy, F. H.	8613 Quincy Ave.
Rogers H. W.	New England Bldg.	Sunkle, Robert H.	2107 Clark Ave.
Romig, E. F.	13586 Euclid Ave.	Suva, John S.	2370 E. 87th St.
Rosenberg, E.	Woodland Ave. & E. 83rd St.		
Rosewater, Eugene D.	1021 Prospect Ave.	Taft, Robert E.	9104 Union Ave.
Rosewater, N.	1021 Prospect Ave.	Tarr, H. M.	1836 Euclid Ave.
Roth, Frank	8623 Quincy Ave.	Tarr, R. T.	5466 Broadway Ave.
Rowland, V. C.	1021 Prospect Ave.	Taylor, A. C.	13576 Euclid Ave.
Rubin, I. M.	4505 Woodland Ave.	Taylor, Lester	The Rose Bldg.
Ruh, H. O.	2500 E. 35th St.	Taylor, T. J.	9410 Pierpont Ave.
Russell, Geo. C.		Thomas, Geo. F.	1021 Prospect Ave.
Russellhurst, Willoughby, O., R. D. No. 2.		Thomas, J. J.	1110 Euclid Ave.
Rust E. G.	The Lennox Bldg.	Thomas, Oscar T.	1021 Prospect Ave.
		Thomas, Robert L.	7820 Hough Ave.
Saeger, B. E.	The Rose Bldg.	Thompson, Clive W.	E. 113th St. & St. Clair Ave.
Sampliner, W. E.	The Rose Bldg.	Thornton, Wm. J.	11308 St. Clair Ave.
Sanford, Henry L.	1021 Prospect Ave.	Tims, W. A.	1488 E. 105th St.
Saunders, E. D.		Towslee, Lillian G.	1021 Prospect Ave.
	Lakeland & Detroit Ave., Lakewood, O.	Tripp, Ira A.	1021 Prospect Ave.
Sawyer, J. P.	The Rose Bldg.	Tuckerman, J. E.	1021 Prospect Ave.
Schlesinger, Wm. A.	5409 Broadway Ave.	Tuckerman, W. C.	1021 Prospect Ave.
Schlink, Albert G.	8608 Hough Ave.	Tuckerman, W. H.	1021 Prospect Ave.
Schmoldt, F. J.	The Rose Bldg.	Tupper, George B.	9704 Cedar Ave.
Schnee, R. G.	Bangor Bldg.	Turrell, R. L.	1109 E. 79th St.
Schott, Morris	1355 E. 55th St.		
Scott, A. Clynton	6523 Euclid Ave.	Updegraff, R. K.	7511 Franklin Ave.
Scott, N. Stone	The Citizen Bldg.	Upson, Geo. D.	Leader-News Bldg.
Scully, A. P.	2518 Detroit Ave.		
Season, E. H.	10403 Euclid Ave.	Wagner, H. G.	The Rose Bldg.
Seidel, R. R.	Bedford, O.	Wagner, L. H.	3056 Payne Ave.
Selman, David	The Rose Bldg.	Wahl, H. R.	Lakeside Hospital
Sexton, F. E.	The Rose Bldg.	Ward, C. E.	2732 W. 14th St.
Shackelton, W. E.	1021 Prospect Ave.	Warner, A. R.	Lakeside Hospital
Sharp, Jay D.	Madison Sq., Euclid & E. 79th St.	Warner, W. C.	1752 E. 89th St.
Sharp, W. D.	1500 E. 105th St.	Weber, O. A.	1021 Prospect Ave.
Sherman, H. G.	The Rose Bldg.	Webster, S. J.	4234 Pearl Rd.
Shirey, O. M.	1021 Prospect Ave.	Wedler, C. R.	4504 Superior Ave.
Shirkey, U. S. L.	6404 Lorain Ave.	Weir, Wm. H.	1021 Prospect Ave.
Shube Herman	4505 Woodland, Ave.	Wells, J. H.	1858 E. 55th St.
Shupe, T. P.	1021 Prospect Ave.	West, K. S.	1110 Euclid Ave.
Silbermann, Jacob	Woodland Ave. & E. 55th St.	Wheelock, L. A.	12113 Euclid Ave.
Sill, R. H.	1694 W. 25th St.	White, C. C.	1532 E. 55th St.
Skeel, A. J.	1834 E. 65th St.	Whitslar, W. H.	Schofield Bldg.
Skeel, R. E.	1021 Prespect Ave.	Wille, Clarence W.	U. S. Marine Hospital
Sloan, Harry G.	1021 Prospect Ave.	Williams, C. D.	The Rose Bldg.
Smigel, P. S.	7211 Broadway Ave.	Williams, T. B.	6403 Quincy Ave.
Smith, C. W.	2107 E. 89th St.	Wimer, J. S.	918 E. 78th St.
Smith, D. B.	The Arcade	Wirtshafter, M.	
			Anisfield Bldg., E. 9th St. & Huron Rd.

# Active Members—Continued

Witter, C. Orville.....	5415 Bridge Ave.	Yoder, H. E.....	8900 Lorain Ave.
Wolfenstein, Leo.....	The Rose Bldg.	Yoder, Ivan I.....	W. 25th St. & Detroit Ave.
Wood, Frederick J.....	W. 25th St. & Church Ave.	Young, Samuel A.....	4021 E. 71st St.
Woolgar, W. J. W.....	9304 Cedar Ave.	Young, T. C.....	3524 E. 93rd St.
Wyckoff, C. W.....	1021 Prospect Ave.		
Yarian, Norman C.....	7405 Detroit Ave.	Zimmer, O.....	4812 Clark Ave.
		Zwick, Isidore.....	5116 Woodland Ave.

# Non-Resident Members

(Paid up for 1916)

Ailes, M. D.....	Garrettsville, O.	Leonard, F. E.....	Oberlin, O.
Andrews, Wm. B.....	318 W. Main St., Kent, O.	Leroy, B. R.....	Athens, O.
Bauer, M. M.....	Lake, O.	Lincoln, Walter.....	Cocoa, Fla.
Bliss, C. B.....	Sandusky, O.	Logan, Geo. M.....	303 Second Nat'l Bldg., Akron, O.
Boyd, J. P.....	Akron, O.	Lowe, Donald B.....	B. F. Goodrich Co., Akron, O.
Carpenter, M. W.....	1021 Prospect Ave.	Lowe, J. W.....	Mentor, O.
Case, C. E.....	Ashtabula, O.	Maynard, O. T.....	308 Third St., Elyria, O.
Clark, Colin R.....	415 Bryson St., Youngstown, O.	Metcalf, H. M.....	Elyria, O.
Cox, S. S.....	Wagner Block, Lorain, O.	Miller, M. F.....	Wadsworth, O.
Cozad, H. Irving.....	Cuyahoga Falls, O.	Monosmith, O. B.....	426 Broadway Ave., Lorain, O.
Cushing, C. H.....	35 Century Block, Elyria, O.	Oakes, I. N.....	Box 4, Ridgeville, O.
Davis, James R.....	Painesville, O.	Painter, A. M.....	Youngstown, O.
DeWitt, J. P.....	122 Shorb Ave., N. W., Canton, O.	Patton, C. C.....	Vermilion, S. D.
Donaldson John B.....	City Bank Bldg. Lorain, O.	Peterson, H. D.....	423 Columbus Ave., Sandusky, O.
Dudley, Harlan.....	Jefferson, O.	Radcliffe, Geo. H.....	Peninsula, O.
Eisenbrey, A.B., St.Luke's Hospital,	New York City	Rankin, Geo. T.....	75 S. Forge St., Akron, O.
Everhard, N. S.....	Wadsworth, O.	Reich, L.....	Leonard Bldg., Augusta, Ga.
Fraunfelter, J.....	Canton, O.	Reynolds R. D.....	Greenspring, O.
Gamble R. V.....	New London, O.	Riewel, H. V.....	Oceanside, Calif.
Gill, George.....	Elyria, O.	Sawyer, Carl W.....	Marion, O.
Handler, S.....	53 Vassar St., Rochester, N. Y.	Schilling, C. E.....	120 Fifth St., Canton, O.
Hart, Wm. E.....	Elyria, O.	Schuffell, H. M.....	316 Cleveland St., Canton, O.
Hayford, H. S.....	131 Prescott St., Toledo, O.	Searl, W. A.....	Cuyahoga Falls, O.
Herrick, H. J.....	Hudson, O.	Selby, C. D.....	659 Spitzer Bldg., Toledo, O.
Hill, Arthur J.....	Canton, O.	Shumaker, D. W.....	Canal Dover, O.
Hoover, Chas. S.....	Alliance, O.	Smith, F. K.....	Warren, O.
Hoover, D. E.....	Warren, O.	Steinke, Carl R.....	406 Ohio Bldg., Akron, O.
Hopkins, O. A.....	Middlefield, O.	Suker, Geo. F.....	25 E. Washington St. Chicago, Ill.
Horn, H. W.....	Wichita, Kansas	Thatcher, W. F.....	181 Forest St., Oberlin, O.
Hubbell, W. B.....	146 Middle Ave., Elyria, O.	Vincent, F. W.....	Baguio, P. I.
Ingersoll, A. J.....	Mentor, O.	Walker, A. B.....	319 Tuscarawas St., Canton, O.
Jacobs, H. H.....	Hamilton Bldg., Akron, O.	Weber, John H.....	Sav. & Loan Bldg., Akron, O.
Jacobson, J. H.....	421 Michigan St., Toledo, O.	Welch, H. E.....	Stambaugh Bldg., Youngstown, O.
Jameson, G. C.....	Oberlin, O.	Weston, Herbert T.....	Hartford, Conn.
Jones, D. J.....	1539 W. Federal St., Youngstown, O.	Wolf, Leslie A.....	Ravenna, O.
Knox, J. D.....	Niles, O.	Zimmerman, H. A.....	Youngstown, O.
Larimore, F. C.....	19 N. Main St., Mt. Vernon, O.	Zinniger, Geo. F.....	The Colonial, Canton, O.

# Associate Members

(Paid up for 1916)

## Dentists

Barnes, Varney E.....	The Rose Bldg.
Price, Weston H.....	10406 Euclid Ave.
Teter, Chas. K.....	The Rose Bldg.
Teter, Wm. C.....	The Rose Bldg.

## Pharmacists

Benfield, C. W.....	Payne Ave. & E. 55th St.
Fox, W. M.....	9702 Cedar Ave.
Hankey, Wm. T.....	1382 W. 9th St.
Hopp, L. C.....	1104 Euclid Ave.
Selzer, E. R.....	1600 E. 117th St.
Sherwood, H. J.....	The Rose Bldg.
Winter, Carl.....	2812 E. 79th St.

## Veterinarians

Backus, Newell D.....	Elyria, O.
Bisbee, W. A.....	5734 Portage Ave.
Borsus, Mihaly.....	3482 Woodland Ave.
Burrows, Samuel.....	2317 E. 89th St.

Classey, Wm. J.....	2027 E. 105th St.
Cooley, A. S.....	E. 40th & Perkins Ave.
Dunn, L. J.....	City Hall
Eddy, C. W.....	1905 Brainard Ave.
Fair, W. C.....	625 Long Ave.
Fulstow, H.....	Norwalk, O.
Fulstow, Phil. H.....	Norwalk, O.
Hart, A. C.....	3225 W. 65th St.
Mawer, G. C.....	6009 Bridge Ave.
Nugent, C. E.....	1556 W. 25th St.
Redhead, W. H.....	3225 W. 65th St.
Roueché, R. C.....	3225 W. 65th St.
Shepard, E. H.....	2027 E. 105th St.
Turner, W. H.....	Amherst, O.

## Miscellaneous

Aikins, Prof. H. A.....	2038 Cornell Rd.
Patten, Bradley M., Ph. D.....	
	W. R. U. Medical College
Waite, F. C., Ph. D.....	
	W. R. U. Medical College



## LISTED FROM 1915 ROSTER

**Active Members**

Allen, Fred Y.....	3909 Cedar Ave.	Irwin, Walter J.....	10516 St. Clair Ave.
Belt, J. H.....	2510 E. 55th St.	Kepner, E. E.....	12436 Superior Ave.
Brody, Myer.....	Woodland & E. 37th St.	Konrad, E. C.....	1900 W. 25th St.
Bowden, D. P.....	Leader-News Bldg.	Krauss, L. W.....	5116 Woodland Ave.
Chambers, Wm.....	1521 E. 82nd St.	Loope, A. M.....	7500 Madison Ave.
Chisholm, Horatio F.....	1120 Euclid Ave.	Lucas, W. Harris.....	2004 W. 25th St.
Dial, Emory L.....	8911 Lorain Ave.	McAfee, J. D.....	8504 Broadway Ave.
Dickenson, J. Jr.....	1021 Prospect Ave.	McGay, N. P.....	906 E. 105th St.
Difford, C. L.....	2557 West 98th St.	Neuberger, Jos. A.....	6424 St. Clair Ave.
Dunn, J. J.....	7604 Superior Ave.	Peters, Walter.....	7720 Superior Ave.
Farnsworth, G. Bourne.....	2047 E. 9th	Tierney, J. S.....	The Lennox Bldg.
Ford, Clyde E.....	1021 Prospect Ave.	Todd, T. Wingate.....	W. R. U. Medical College
Gernhard W. E.....	1921 West 65th St.	Weber, W. C.....	The Rose Bldg.
Gregory, W. M.....	Berea, O.	Wickersham, J. W.....	109 Charlotte Ave., Detroit, Mich.
Hain, C. O.....	2767 West 25th St.		
Heath, Jerome A.....	5506 St. Clair Ave.		

**Non-Resident Members**

Booth, Carlos C.....	Youngstown, O.	Rudolph, J. Francis.....	Belle Plaine, Kans.
Cotton, C. E.....	Asheville, N. C.	Snearer, Wm.....	Madison, O.
Hobson, J. D.....	Stevensville, Mont.	Ward, C. S.....	Warren, O.
		Weitz, George J.....	Boonville, Mo.

**Associate Members****Dentists**

Stephan, John F.....	New England Bldg.
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**Pharmacists**

Muhlan, O. E.....	10508 Cedar Ave.
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**Veterinarians**

Cunningham, A. E.....	3326 Carnegie Ave.
Greenwood, Ross A.....	Painesville, O.
McCollister, F. L.....	Willoughby, O.
Prucha Jos. V.....	3225 W. 65th St.
Way, Rexford D.....	E. 40th St. & Perkins Ave.

**PROGRAM FOR THE SEVENTY-FIRST ANNUAL MEETING  
OF THE OHIO STATE MEDICAL ASSOCIATION, TO  
BE HELD IN CLEVELAND, MAY 17, 18 AND 19**

The following is the completed program for the seventy-first annual meeting of the Ohio State Medical Association which will be held in Cleveland Wednesday, Thursday and Friday, May 17, 18 and 19.

Convention headquarters will be established at the Hotel Statler. All section meetings, and the exhibits, will be on either the parlor or mezzanine floor of this hotel.

It should be particularly noted that the time indicated on this program is Eastern time, which is one hour faster than Central Standard time.

**Condensed Summary of the Program.****Wednesday, May 17, 1916.**

Wednesday morning—10:00 A. M., Opening session, annual address of the President, at Hotel Statler; 11:00 A. M., House of Delegates, opening session for annual reports, Hotel Statler.

Wednesday noon—12:00 M., Annual luncheon of the One Hundred Per Cent Club, Hotel Statler.

Wednesday afternoon—1:00 to 1:45 P. M., Pediatric clinic at the Babies' Dispensary and Hospital; 2:00 P. M., Medical Section, Hotel Statler; 2:00 P. M., Surgical Section, Hotel Statler; 2:00 P. M., Eye, Ear, Nose and Throat Section, Hotel Statler; 2:00 P. M., Obstetrics and Pediatrics Section, Hotel Statler; 2:00 P. M., Dermatological G. U., and Proctological Section, Hotel Statler; 2:00 P. M., Hygiene and Sanitary Science Section, Hotel Statler; 2:00 P. M., Section on Nervous and Mental Diseases, Hotel Statler.

Wednesday evening—7:15 P. M., Second session, House of Delegates, University Club, Euclid Avenue; 8:30 P. M., General smoker, University Club: Oration in Medicine, Frederick T. Lord, M. D., Boston; Oration in Surgery, John H. Gibbon, M. D., Philadelphia.

#### Thursday, May 18, 1916.

Thursday morning—9:00 A. M., joint session of the Medical and Surgical Sections, Hotel Statler; 9:00 A. M., Eye, Ear, Nose and Throat Section, Hotel Statler; 9:00 A. M., Section on G. U. Surgery, Hotel Statler; 9:00 A. M., Section on Nervous and Mental Diseases, Hotel Statler.

Thursday noon—12:00 M., Auxiliary Committee on Medical Defense, luncheon conference at Hotel Statler.

Thursday afternoon—1:00 P. M., third session, House of Delegates, Hotel Statler; 2:30 P. M., Medical Section, Hotel Statler; 2:00 P. M., Surgical Section, Hotel Statler; 2:30 P. M., Eye Ear, Nose and Throat Section, Clinics at City, Charity and Lakeside Hospitals; 2:00 P. M., Section on Nervous and Mental Diseases, at Cleveland State Hospital; 2:00 P. M., Reception for visiting ladies, at College Club; autos will leave east side entrance of Hotel Statler at 2:00 P. M.; 1:00 P. M., Pediatric clinic at the Babies' Dispensary and Hospital.

Thursday evening—7:30 P. M., annual banquet, Hotel Statler.

#### Friday, May 19.

Friday morning—Pediatric clinic at Lakeside Hospital; 9:00 A. M., Medical clinics at City, St. Luke's, Lakeside and Charity Hospitals; 9:00 A. M., Surgical clinics at Lakeside, Charity, City and St. Luke's Hospitals; 9:30 A. M., Gynecological clinic at Lakeside Hospital; 9:30 A. M., Orthopedic clinic at Lakeside Hospital.

Friday afternoon—Inspection trip to Cooley Farm, the Van Sweringen Farm and Belle Vernon Dairy Plant.

#### OPENING SESSION

Wednesday, May 17, 10:00 A. M.

(Ball Room, Hotel Statler, Mezzanine Floor.)

1. Call to order by the President of the State Society, William E. Lower, M. D., Cleveland.
2. Address of welcome on behalf of the City of Cleveland, by Hon. Harry Davis, the Mayor.
3. Address of welcome on behalf of the Academy of Medicine of Cleveland, by W. E. Bruner, M. D., the President.
4. Annual address of the President of the Ohio State Medical Association.
5. Announcement of the general details of the program, C. E. Ford, M. D., Chairman of the local Committee on Arrangements.

#### Luncheon Meetings.

Wednesday noon—Annual luncheon of the Hundred Per Cent Club of the State Association will be held Wednesday, May 17, at 12 M. in the Hotel Statler. Given by *The Ohio State Journal*, in compliment to those county society officials who have been particularly active in important work of county membership. Those who are invited to be guests of *The Journal* on this occasion are the presidents and secretary-treas-



urers of those county societies which, on or before May 1, 1916, had a total paid-up membership equal to or greater than the total paid-up membership of 1915. Dr. Lower will preside at this luncheon. There will be snappy three-minute talks by several live wires in the membership work. Admission by card.

Thursday noon—Auxiliary committeemen for co-operative medical defense, one of which has been appointed by each county society to act with the State Committee on Co-operative Medical Defense, will hold their first annual conference and luncheon at the Blank Cafe, Cleveland, on Thursday, May 18, at 12 M. Dr. J. E. Tuckerman, chairman of the State Committee on Medical Defense, will preside. The conference will take up the details of instituting co-operative medical defense by the State Association. Auxiliary committeemen will be the guests of the State Association at this luncheon.

### HOUSE OF DELEGATES.

#### First Session—Wednesday, May 17, at 11:00 A. M.

(Ball Room, Mezzanine Floor, Hotel Statler.)

1. Call to order by the President.
2. Miscellaneous business: (a) Selection of a special committee to act on recommendations embodied in president's address; (b) Consideration of minutes of previous meeting.
3. Nomination and election of the Nominating Committee. (Nominations from the floor, with one representative to be elected from each district.)
4. Report of officers: (a) Secretary-Treasurer. (Financial statement printed in *The Journal* for March, 1915, page 190.)
5. Reports of special and standing committees: (a) Public Policy and Legislation, J. H. J. Upham, M. D., Columbus, chairman; (b) Publication, C. D. Selby, M. D., Toledo, chairman; (c) Public Health Education, J. H. Landis, M. D., Cincinnati, chairman; (d) National Legislation, J. H. J. Upham, M. D., Columbus, national auxiliary committeeman for the American Medical Association; (e) Committee on Medical Defense (special), J. E. Tuckerman, M. D., Cleveland, chairman; (f) Committee on Auditing and Appropriation, Wells Teachnor, M. D., Columbus, chairman; (g) Committee on Medical Education (special), Robert Carothers, M. D., Cincinnati, chairman; (h) Committee on Workmen's Compensation (special), C. F. Bowen, M. D., Columbus, chairman; (j) Committee on First Aid (special), William E. Lower, M. D., Cleveland, chairman; (k) Committee on Social Service and Membership (special), C. E. Ford, M. D., Cleveland, chairman.

#### Second Session—Wednesday May 17, 7:15 P. M.

(University Club, Euclid Avenue.)

(Joint session with the Council of the State Association.)

1. Reports from Councilors as to the condition of the societies in their respective districts.
2. Final consideration of proposed amendments to constitution and by-laws, which were introduced at 1915 meeting, and laid over under the rules. (a) The first is an amendment to Article IV, and provides for the admission of "associate members" to the State Body, by the addition of the following: "Sec. 5. Members in good standing in state associations or societies of allied professions may be elected associate members by the House of Delegates upon recommendation of the Council or by majority vote of the Council at any regular meeting of that body upon payment to the treasurer of the Ohio State Medical Association a proportional part of the annual assessment. Said assessment to be fixed by Council. They shall be entitled to receive *The Journal*, to attend the meetings of the Association, but have no representation in the House of Delegates." (b) The second proposal provides for the installation of a system of co-operative defense against civil malpractice suits, as follows; "To amend Chapter VIII, Section 1, by adding after the words 'a com-

mittee on arrangements,' 'a committee of three on medical defense, one of whom shall be for one year, one for two years, and one for three years, and one for each year thereafter, to devise plans for, institute and direct a defense against suits for civil malpractice brought against members of this Association. There shall be one member elected annually by each county society, to serve as auxiliary to said committee.' "

3. Introduction of proposed amendments to the Constitution and By-Laws—Article XI of the Constitution provides that the Constitution may be amended by a two-thirds vote of the delegates registered at the annual session, provided such amendment shall have been presented in open meeting at the previous annual session, and submitted to each county twice in the intervening year. By-Laws may be amended only by the same procedure.

4. Miscellaneous business: (a) Consideration of matters referred to the House of Delegates by Council. (b) Determination of the annual per capita for State Association purposes as provided in Section 1 of Chapter IX of the By-Laws.

### **Third Session—Thursday, May 18, at 1:00 P. M.**

(Ball Room, Mezzanine Floor, Hotel Statler.)

1. Report of Nominating Committee.

2. Annual election of officers. (a) President-elect (one year). (b) Secretary-Treasurer (three years). (c) Chairman and two members of the Committee on Public Policy and Legislation (one year each). (d) Three members of Publication Committee (one year each). (e) Chairman and two members of Committee on Public Health Education (one year each). (f) Three members Committee on Medical Defense—providing above constitutional amendment is approved: One for one year, one for two years, and one for three years. (g) Councilor, First District (two years). (h) Councilor, Third District (two years). (i) Councilor, Fifth District (two years). (j) Councilor, Seventh District (two years). (k) Councilor, Ninth District (two years). (l) Two delegates to 1916 meeting of American Medical Association, Detroit, in June (two years each\*). (m) Two alternates, same. (Delegates must be fellows in A. M. A. of at least two years standing).

(Note: By-Laws of A. M. A. provide that delegates must be elected for term of two years by State Constituent Societies. At our 1915 annual meeting we elected three delegates for two years, and two for one year. The terms of the latter two have expired. This should be adjusted by this House of Delegates, by resolution.)

3. Selection of place for 1917 meeting.

4. Miscellaneous business.

5. Installation of officers for 1916.

Adjournment.

### **EVENING ARRANGEMENTS.**

#### **Wednesday Evening.**

Members will be guests of the Academy of Medicine of Cleveland at a smoker on Wednesday evening, May 17, at the University Club—Euclid avenue, near Fortieth street. Automobiles will convey members from Association headquarters to the club.

This year the annual orations will be delivered at this smoker, and the usual General Session on the third day will be devoted to clinical work. Orations will be started at 8:30. Oration in Medicine: "Certain Aspects of Pulmonary and Pleural Disease," by Frederick T. Lord, M. D., of Boston.

A number of different subjects will be discussed with the object of bringing out the more practical matters of interest to practicing physicians. In addition, such recent advances as have a promise of practical application will be reviewed in order to indicate the trend of present



opinion. The following topics will be considered: (1) The clinical manifestations and treatment of inhaled foreign bodies. (2) The etiology and diagnosis of chronic bronchitis. (3) The cause and treatment of bronchial asthma. (4) The relation of hemoptysis to pulmonary tuberculosis and the causes of death in hemoptysis due to tuberculosis. (5) The clinical recognition of pulmonary infarction. (6) Concerning lobar pneumonia: (a) Recent advances in the study of its etiology. (b) Metabolism. (c) Symptoms and signs. (d) Explanation of the crisis. (e) Recognition of complications. (f) Causes of death. (g) Treatment by serum and quinine. (7) Concerning pleural diseases: (a) Relation to tuberculosis. (b) Examination of pleural fluids.

Oration in Surgery: "Gall Bladder Infections, by John H. Gibbon, M.D., of Philadelphia.

### Thursday Evening.

The annual banquet will be given at the Hotel Statler Thursday evening, May 18, at 7:30 P. M. Instead of usual after-dinner toasts, the program will be limited to one speaker, Mr. John Kendrick Bangs. His subject will be "Some Salubrities I Have Met." Tickets, at two dollars, may be secured in advance at Registration Desk. Ladies are invited. Formal and informal.

### PROGRAM FOR THE LADIES.

Thursday afternoon there will be a reception for visiting ladies at the College Club, preceded by an auto ride over the city. Autos will leave east entrance of Hotel Statler at 2:00 P. M. Ladies are expected at the banquet Thursday night. Ladies are invited to participate in the auto trip, Friday afternoon, to the Van Sweringer dairy farm, the City Farm, and to inspect the Belle-Vernon dairy plant.

### MEDICAL SECTION.

John Phillips, M.D., Cleveland, chairman; H. B. Blakey, Columbus, secretary.

### Wednesday, May 17, 2:00 P. M.

(Lattice Room, Mezzanine Floor, Hotel Statler.)

1. The question of treatment and curability of syphilis, Louis A. Levison, M.D., Toledo. Discussion, C. L. Cummer, M.D., Cleveland.
2. Deductions from the treatment of syphilis with salvarsan, H. N. Cole, M.D., Cleveland. Discussion, M. L. Heidingsfeld, M.D., Cincinnati.
3. Why is early tuberculosis so often not diagnosed, C. O. Probst, M.D., Columbus. Discussion, Charles S. Rockhill, M.D., Cincinnati.
4. Two intimate experiences with aortic aneurysms, Ralph Updegraff, M.D., Cleveland. Discussion, V. C. Rowland, M.D., Cleveland.
5. The need of greater appreciation of foods, T. Herbert Infield, M.D., Zanesville. Discussion, Homer Davis, M.D., Newark.
6. Characteristic X-Ray findings in secondary sarcoma of the lung, Sidney Lange, M.D., Cincinnati. (Demonstration with slides of four cases with differential diagnosis from other pulmonary lesions, and pathological explanation of the peculiar shadows.)

### Thursday, May 18, 9:00 A. M.

Joint session of Medical and Surgical Sections.

(Ball Room, Mezzanine Floor, Hotel Statler.)

1. Symposium on Goitre: (a) Medical paper, J. P. Sawyer, M.D., Cleveland. Discussion, Richard Dexter, M.D., Cleveland. (b) Surgical paper, George W. Crile, M.D., Cleveland. Discussion, Andre Crotti, M.D., Columbus.

2. State Health Insurance for Ohio, M. R. Hammond, Ph. D., Dept. of Economics and Sociology, Ohio State University, Columbus.

3. Symposium on congenital stenosis of pylorus: (a) Medical paper, E. W. Mitchell, M. D., Cincinnati. Discussion, H. J. Gerstenberger, M. D., Cleveland. (b) Surgical paper, Dudley W. Palmer, M. D., Cincinnati. Discussion, Frank Emory Bunts, M. D., Cleveland.

#### **Thursday, May 18, 2:30 P. M.**

(Lattice Room, Mezzanine Floor, Hotel Statler.)

First order of business, election of Chairman and Secretary for ensuing year.

1. The value of functional analysis of gastric secretion, Harold Feil, M. D., Cleveland. Discussion, Andrew S. Robinson, M. D., Cleveland.

2. Medical Practice—past present and future, George H. Matson, M. D., Columbus. Discussion, Robert H. Bishop, Jr., M. D., Cleveland.

3. Common circulatory disturbances, Frank Winders, M. D., Columbus. Discussion.

4. Disassociation jaundice C. F. Hoover, M. D., Cleveland. Discussion, Royal S. Morris, M. D., Cincinnati.

5. Indications for and value of stomach lavage as a therapeutic agent, E. S. Jones, M. D., Painesville. Discussion.

6. Constitutional conditions resulting from tonsillar infection, Harry B. Harris, M. D., Dayton. Discussion.

### **SURGICAL SECTION**

J. C. Oliver, M. D., Cincinnati, Chairman.

Earl M. Gilliam, M. D., Columbus, Secretary.

#### **Wednesday, May 17, 2:00 P. M.**

(Ball Room, Mezzanine Floor, Hotel Statler.)

1. The surgeon, industrial economist and sociologist, C. D. Selby, M. D., Toledo. Discussion, S. M. McCurdy, M. D., Youngstown.

2. Intra-abdominal injuries without external evidence, C. A. Howell, M. D., Columbus. Discussion, Frank Warner, M. D., Columbus.

3. Experience with Murphy's operation for prolapse of the uterus, Mark Millikin, M. D., Hamilton. Discussion, L. G. Bowers, M. D., Dayton.

4. The relation of uterine fibroids to hypertrophy and dilatation of the heart, Ben R. McClellan, M. D., Xenia. Discussion, J. H. Jacobson, M. D., Toledo.

5. Post-operative ileus, George Goodhue, M. D., Dayton. Discussion, Joseph Ransohoff, M. D., Cincinnati.

6. Pathology of tuberculosis hip, and what it teaches, S. D. Foster, M. D., Toledo. Discussion, Robert Carothers, M. D., Cincinnati.

7. Some unfortunate surgical experiences, Wm. E. Ranz, M. D., Youngstown. Discussion, Rufus B. Hall, M. D., Cincinnati.

#### **Thursday, May 18, 9:00 A. M.**

(Ball Room, Mezzanine Floor, Hotel Statler.)

Joint session of the Medical and Surgical Sections. See program of second session of Medical Section.

#### **Thursday, May 18, 2:00 P. M.**

(Ball Room, Mezzanine Floor, Hotel Statler.)

First order of business—Election of Chairman and Secretary for ensuing year.



1. Some phases of breast tumors, J. W. Means, M. D., and Jonathan Forman, M. D., Columbus. Discussion, Julius H. Jacobson, M. D., Toledo.
2. The closure of large breast wounds, J. Louis Ransohoff, M. D., Cincinnati. Discussion, J. F. Baldwin, M. D., Columbus.
3. Some suggestions in surgical cases, including anesthetic, technique, and after treatment, Walter R. Griess, M. D., Cincinnati. Discussion, H. T. Sutton, M. D., Zanesville.
4. Cholecystectomy versus cholecystostomy, Harry S. Noble, M. D., St. Marys. Discussion, Fred Fletcher, M. D., Columbus.
5. Treatment after drainage of the appendiceal abscess, Dan Gray, M. D., Ironton. Discuss, S. S. Halderman, M. D., Portsmouth.
6. The appendix: A resume of original research, Chester C. Waller, M. D., Warren. Discussion, Cleon W. Colby, M. D., Wellsville.

### EYE, EAR, NOSE AND THROAT SECTION

R. D. Gibson, M. D., Youngstown, Chairman.

Charles L. Minor, M. D., Springfield, Secretary.

#### Wednesday, May 17, 2:00 P. M.,

(Rooms 243 and 245, Hotel Statler, Floor above Parlor Floor.)

1. Maxillary Antrum, diagnosis, pathology and treatment, W. O. Bonser, M. D., Toledo. Discussion, F. W. Alter, M. D., Toledo.
2. The intra-nasal tear sac. Operation, with report of cases, William Mithoefer, M. D., Cincinnati. Discussion, J. E. Brown, M. D., Columbus.
3. The practical value of stereo-Roentgenograms of the head, J. M. Ingersoll, M. D., Cleveland. Discussion, Sidney Lange, M. D., Cincinnati.
4. Roentgenology of the head, W. C. Hill, M. D., and G. F. Thomas, M. D., Cleveland. Discussion, Harry Dachtler, Toledo.
5. A plea for the use of the electro-cautery in tuberculosis of the larynx, Samuel Iglauer, M. D., Cincinnati. Discussion, T. R. Hubbard, M. D., Toledo.

#### Thursday, May 18, 9:00 A. M.

Short business session.

Election of Chairman and Secretary for ensuing year.

Report of committees.

1. Conservation of vision, George C. Schaeffer, M. D., Columbus. Discussion, W. H. Snyder, M. D., Toledo, S. M. Hartzell, M. D., Youngstown.
2. The medical aspects of glaucoma, Arnold Knapp, M. D., New York.
3. Foreign bodies in the eye, W. E. Shackleton, M. D., Cleveland. Discussion, Victor Ray, M. D., Cincinnati. Luncheon at Hotel Statler at 12:30.

#### Thursday, 2:00 P. M. Clinics.

City Hospital—J. N. Lenker, M. D., malignant diseases of the larynx.

Charity Hospital—S. H. Large, M. D., bronchoscopic demonstrations.

Lakeside Hospital—J. M. Ingersoll, M. D., and W. C. Chamberlain, M. D. Clinics on complications of mastoid infections. W. E. Bruner, M. D., and others will demonstrate several cases of tuberculosis of the eye. Dr. Arnold Knapp will hold a clinic.

**SECTION ON OBSTETRICS AND PEDIATRICS**

Andrews Rogers, M. D., Columbus, Chairman.

John Gardner, M. D., Toledo, Secretary.

**Wednesday, May 17, 2:00 P. M.**

(North Foyer, Mezzanine Floor, Hotel Statler.)

1. (Subject later), F. H. Lamb, M. D., Cincinnati. Discussion, H. J. Morgan, M. D., Toledo; E. G. Horton, M. D., Columbus.
2. Status praesens breast milk stimulants, W. G. Dice, M. D., Toledo. Discussion, H. H. Snively, M. D., Columbus; G. W. Allen, M. D., Cincinnati.
3. Effects of obesity on pregnancy and labor, W. Porter, M. D., Cincinnati. Discussion, J. J. Thomas, M. D., Cleveland; G. W. Brehm, M. D., Columbus.
4. Relation of organs of internal secretion to pregnancy, D. Marine, M. D., Cleveland.
5. Symposium of operative delivery; (a) The use and abuse of forceps, Wm. Gillespie, M. D., Cincinnati. (b) Caesarean section, classical and extraperitoneal, E. J. March, M. D., Canton. (c) Pubiotomy, symphysiotomy and perforation, G. B. Farnsworth, M. D., Cleveland. Discussion—(a) S. J. Goodman, M. D., Columbus; (b) A. J. Skeel, M. D., Cleveland; (c) W. W. Brand, M. D., Toledo.
6. Case report: Cancer of uterus complicating pregnancy, M. A. Tate, M. D., Cincinnati.
7. Three most difficult labors, and how they were treated. A. H. Hill, M. D., Cleveland, and W. D. Inglis, M. D., Columbus.
8. Election of chairman and secretary for ensuing year.

**Clinical Notice**

(a) Demonstration in the preparation of a modified food adapted to human milk, at the Babies' Dispensary and Hospital, 2500 East 35th street, 1:00 to 1:45 P. M., Wednesday, May 17.—H. J. Gerstenberger, M. D., and H. O. Ruh, M. D.

(b) Demonstration in the preparation of a modified food adapted to human milk, at the Babies' Dispensary and Hospital, 2500 East 35th street, 1:00 to 1:45 P. M., Thursday, May 18.—H. J. Gerstenberger, M. D., and H. O. Ruh, M. D.

(c) Pediatric clinic at Lakeside Hospital with demonstration of infants fed with a modified food adapted to human milk, Friday morning, May 19.—H. J. Gerstenberger, M. D.

**SECTION ON DERMATOLOGY, PROCTOLOGY, AND  
G. U. SURGERY**

E. O. Smith, M. D., Cincinnati, Chairman.

Charles J. Shepard, M. D., Columbus, Secretary.

**Wednesday, May 7, 2:00 P. M.**

(Parlors C, D, and E, parlor floor, Hotel Statler.)

**Dermatology**

1. The Roentgen Ray treatment of acne. A resume of fourteen years' experience, W. I. LeFevre, M. D., Cleveland. Discussion, Charles F. Bowen, M. D., Columbus.
2. Ductless gland therapy and dermatology, Edwin B. Tucker, M. D., Toledo. Discussion, A. Ravogli, M. D., Cincinnati.
3. Why venereal diseases should be under the control of specialists, C. J. Broeman, M. D., Cincinnati. Discussion, H. N. Cole, M. D., Cleveland.



4. The Laboratory Diagnosis of Syphilis, M. L. Heidengsfeld, M. D., Cincinnati. Discussion, H. M. Brundage, M. D., Columbus.

### Proctology

1. Proctitis, Chas. E. Howard, M. D., Cincinnati. Discussion, John M. Frick, M. D., Toledo.
2. Local treatment of inflammatory diseases of rectum and colon, Wells Teachnor, M. D., Columbus. Discussion, C. T. Southern, M. D., Cincinnati.

**Thursday, May 18, 9.00 A. M.**

Parlors C, D, and E, parlor floor, Hotel Statler.)

### Genito-Urinary Diseases

Election of chairman and secretary for ensuing year.

Symposium—Factors interfering with the urinary flow: (a) Ureteral obstructions, Henry L. Sanford, M. D., Cleveland. (b) At the neck of the bladder, Hugh A. Baldwin, M. D., Columbus. (c) In the urethra— anterior to the prostate, Charles Melvin Harpster, M. D., Toledo.

Discussion—(a) C. A. Coleman, M. D., Dayton. (b) A. W. Nelson, M. D., Cincinnati. (c) S. Englander, M. D., Cleveland.

## SECTION ON HYGIENE AND SANITARY SCIENCE

J. R. McDowell, M. D., Springfield, Chairman.

A. O. Peters, M. D., Dayton, Secretary.

**Wednesday, May 17, 2:00 P. M.**

(Parlor B, parlor floor, Hotel Statler.)

1. An Epidemiological Survey of Typhoid Fever, F. G. Boudreau, M. D., Columbus. Discussion, A. L. Light, M. D., Dayton.
2. The problem of infection, Sidney M. McCurdy, M. D., Youngstown. Discussion, C. D. Selby, M. D., Toledo.
3. Health promotion of school children, Wm. H. Peters, M. D., Cincinnati. Discussion, E. A. Peterson, M. D., Cleveland.
4. The present status of water purification in Ohio, W. H. Ditto, C. E., Columbus (Director of Division of Sanitary Engineering, Ohio State Board of Health). Discussion, Louis Kahn, M. D., Columbus.
5. Paper (subject later), R. G. Perkins, M. D., Cleveland.
6. The relation of stream pollution to public health (with lantern slide demonstration), Wade H. Frost, M. D., United States Public Health Service.
7. Election of chairman and secretary for ensuing year.

## SECTION ON NERVOUS AND MENTAL DISEASES

Charles H. Clark, M. D., Lima, Chairman.

Frank D. Ferneau, M. D., Toledo, Secretary.

**Wednesday, May 17, 2:00 P. M.**

(Room 246, parlor floor, Hotel Statler.)

1. Spinal draining in paresis, C. C. Kirk, M. D., Toledo. Discussion, K. S. West, M. D., Cleveland.
2. The medico-legal significance of trauma as an etiological factor in Basedow's disease, H. H. Drysdale, M. D., Cleveland. Discussion, Andre Crotti, M. D., Columbus.
3. The graver forms of chorea, G. T. Harding, Jr., M. D., Columbus. Discussion, Carl W. Sawyer, M. D., Marion.
4. Lues resembling pseudo-sclerosis, Louis Miller, M. D., Toledo. Discussion, G. T. Harding, Jr., M. D., Columbus.
5. Dual personality, Charles W. Stone, M. D., Cleveland. Discussion, E. E. Gaver, M. D., Columbus.

6. Localization of function in the cerebellum, David I. Wolfstein, M. D., Cincinnati. Discussion, Walter B. Laffer, M. D., Cleveland.

#### Thursday, May 18, 9:00 A. M.

First order of business election of chairman and secretary for ensuing year.

1. Confusing factors in the diagnosis of mental diseases, E. E. Gaver, M. D., Columbus. Discussion, H. C. Eyman, M. D., Massillon.

2. Epilepsy and epileptics, G. G. Kineon, M. D., Gallipolis. Discussion, E. J. Emerick, M. D., Columbus.

3. Scientific work in state hospitals, Arthur G. Hyde, M. D., Cleveland. Discussion, George R. Love, M. D., Toledo.

4. Problem of delinquency, A. F. Shepherd, M. D., Columbus. Discussion, H. H. Drysdale, M. D., Cleveland.

5. The education of the public concerning state hospital conditions, E. A. Baber, M. D., Dayton. Discussion, C. F. Gilliam, M. D., Columbus.

Mental clinic will be held Thursday afternoon at the Cleveland State Hospital, Dr. A. G. Hyde and staff. The hospital is located at Broadway and Miles avenue, Newburgh.

#### PROGRAM FRIDAY, MAY 19

Friday, May 19, will be devoted entirely to clinics, and to a trip arranged to give the visitors a comprehensive view of modern methods in producing and distributing milk.

More definite details regarding the exact nature of the clinics will be posted on Thursday, May 18, at Registration desk in the Statler Hotel lobby.

The following general details have been arranged:

##### Medical Clinics—Friday, May 19, 1916

City Hospital—9 o'clock—E. P. Carter, M. D.

City Hospital—9 o'clock—Richard Dexter, M. D.

St. Luke's Hospital—9 o'clock—M. J. Lichty, M. D.

Lakeside Hospital—9:30 to 11:00—C. F. Hoover, M. D.

Charity Hospital—9:30 o'clock—John P. Sawyer, M. D.

##### Surgical Clinics—Friday, May 19, 1916

Lakeside Hospital—9 to 11 o'clock—George W. Crile, M. D.

Lakeside Hospital—9 to 11 o'clock—William E. Lower, M. D.

Charity Hospital—10 to 11 o'clock—Frank E. Bunts, M. D.

City Hospital—10 o'clock—C. A. Hamann, M. D.

St. Luke's—9 o'clock—R. E. Skeel, M. D.

##### Gynecological Clinic

Lakeside Hospital—9:30 o'clock—William H. Weir, M. D.

##### Orthopedic Clinic

Lakeside Hospital—9:30 o'clock—Gordon Morrill, M. D.

#### AUTOMOBILE TRIPS TO CITY FARMS, THE VAN SWERINGEN FARM AND THE BELLE-VERNON DAIRY PLANT

Automobiles will leave Hotel Statler at an hour to be announced for the Cooley Farm, the Van Sweringen Farm and Belle-Vernon Dairy Plant. This will afford an exceptional opportunity to observe modern methods of caring for a city's dependants and the study of the operation of a modern tuberculosis sanitarium maintained by the City of Cleveland. At the Van Sweringen Farm will be found a modern plant for the production of high grade milk. The Belle-Vernon Dairy Plant for the distribution of milk is probably the finest of its kind in this country.



Physicians will appreciate this opportunity of observing the production and distribution of this most important human food.

## FACTS OF INTEREST

### Registration

General registration for all visitors and guests will be conducted on the mezzanine floor, Hotel Statler, just above the main lobby. A badge will be issued on registration to every member and guest, and admission to all sections and general meetings, and to the special entertainments in connection with the meeting will be by badge only. This year there will be door-keepers at every meeting of every section, and those failing to show membership or guest badges will be excluded. In years past members who were in arrears with their dues—and were no longer members, in consequence—have been admitted to the various sessions. It has been decided to strictly enforce the provisions of the constitution on this point this year, so it behooves every member to see that dues for 1916 are paid in advance of the meeting.

### Papers

All papers presented at any section or general meeting shall be deposited with the secretary of that section immediately after the reading. This is absolutely necessary if the paper is to be considered for publication in *The Journal*. All papers read before any section of the meeting are property of the Association, and must first be submitted for publication in the official journal of the Association.

No address or paper, except those of the president and orators shall require more than twenty minutes in its delivery; and no member shall speak for longer than five minutes in discussion, nor, except by unanimous consent, more than once on one subject.

## COMMITTEE ON ARRANGEMENTS

Representing the Academy of Medicine of Cleveland in arranging for, and directing the local details for this meeting is the following committee:

C. E. Ford, M. D., chairman.

### Sub-Committees

Publicity—H. W. Masenhimer, M. D., chairman.

Entertainment—H. L. Sanford, M. D., chairman.

Hotels and Meeting Places—C. L. Cummer, M. D., chairman.

Badges and Buttons—E. D. Sanders, M. D., chairman.

Finance—W. J. Manning, M. D., chairman; E. F. Freedman, M. D.; Lester Taylor, M. D.

Exhibits—Lester Taylor, M. D., chairman.

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# The Cleveland Medical Journal

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Vol. XV

MAY, 1916

No. 5

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## OCCUPATIONAL MORTALITY EXPERIENCE OF 94,269 INDUSTRIAL WORKERS—METROPOLITAN LIFE INSURANCE COMPANY, 1911-1913\*

By LOUIS I. DUBLIN, Ph. D.

Statistician, Metropolitan Life Insurance Company, New York.

I propose in this paper to present briefly the results of an analysis of 94,269 death certificates of occupied white males, ages 15 and over, to show the influence of occupation upon the causes of death. The material is from the industrial mortality experience of the Metropolitan Life Insurance Company, and covers the three years 1911, 1912, and 1913. The occupations represented in this experience are almost entirely industrial in character. Every section of the country is represented, including Canada. Table 1 shows that all the important occupations in the various industries are represented. "Laborers" form the largest group, with 11.4 per cent of the total. There are large numbers of clerical workers, farmers, and farm laborers, workers in the building trades, in the iron and steel mills, and in the railway service (see Table 1).

In selecting our occupations for study attention was especially directed to those which were represented in large numbers or which possessed exceptional interest from the viewpoint of hazard. The causes of death which were singled out were likewise those which were of the greatest interest because of their frequency or because they indicated the character of the hazard in the occupation. The number of deaths from these causes was tabulated for each occupation by ten year age periods. Table 2 gives the number and percentage of the principal causes of death in the experience as a whole. This is our basic table and will serve as our standard of comparison (see Table 2).

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\*Read before the Academy of Medicine, Cleveland, Ohio, February 18, 1916.



You will note that six groups of causes, namely, tuberculosis, cerebral hemorrhage, apoplexy and paralysis, organic diseases of the heart, pneumonia, Bright's disease and the accidents account for 64.8 per cent of all the deaths. In other words, they represent more than five-eighths of the total. This condition varies of course with the age period. At ages 15 to 24 there are two causes of pre-eminent importance, namely, tuberculosis of the lungs and accidental violence; together they are responsible for 53.0 per cent of all deaths. In the age period 25 to 34, pneumonia becomes significant and together with the two aforesaid causes increases the proportion to 60.7 per cent of the total. In the age period 35 to 44, Bright's disease and organic diseases of the heart raise the number of principal causes to five, which together form 66.4 per cent of all of the deaths. In the age period 65 and over, organic diseases of the heart lead and together with Bright's disease, cerebral hemorrhage, apoplexy and paralysis and cancer and pneumonia give a total of 61.1 per cent of the deaths from all causes.

The last column of our Table 2 shows the average age at death from each of the causes and from all of the causes of death combined. It is realized that these average ages are not reliable measures of the mortality of occupied persons in the various occupations; they are nevertheless significant as a descriptive factor for each one of the diseases or conditions listed. Typhoid fever shows the lowest average age at death (31.1 years). This is followed by tuberculosis of the lungs, 37.1 years. Cerebral hemorrhage, apoplexy and paralysis show the highest age at death, which is close to 61 years.

So much for the conditions in the group as a whole. I must now proceed with a consideration of the findings in some of the individual occupations. But before I do this I shall say a few words in explanation of the method that will be followed. I will illustrate with Table 3 for "Blacksmiths." This table is like "2" for all occupations; the absolute numbers alone are omitted for the sake of simplicity. I have similar tables for each of the other occupations which give the number of deaths for the principal causes occurring in each age period. Now it were well if in addition to the deaths there were available the number of living policyholders by age in each occupation. We would then be able to present the death rates for each occupation at each age period and for each cause of death. Such figures would at

one stroke give a measure of the relative healthfulness of each occupation. Unfortunately, this is not possible because of the great cost involved in keeping records in such detail for over 10,000,000 industrial policyholders. We may nevertheless determine the significant facts in the relation between the occupations and the causes of death by the method of proportionate mortality. The method will compare the percentage of total deaths from any one cause in a specified occupation with the corresponding percentage in our basic table for all occupations. For example, at the age period 25 to 34 we find that 28.7 per cent of the deaths among blacksmiths were due to tuberculosis of the lungs. For the same age period the corresponding percentage of deaths from tuberculosis of the lungs among all occupied males was 40.9 per cent. The ratio of these two percentages, namely, 28.7 as compared with 40.9, may be conveniently called the index of mortality for tuberculosis of the lungs among blacksmiths. In this instance, the index in the age period 25 to 34 is 70.2 where 100.0 is the standard. It is quite evident that pulmonary tuberculosis among blacksmiths at this age period does not require the same attention from hygienists as it would in certain other occupations.

My plan from this point onward will be to consider a number of the more important causes of death and to point out the occupations in which those causes occur most frequently. Later, I shall consider conversely a number of the more important occupations and shall show which conditions are the most serious in them. We shall in this way look at the picture from both angles.

Pulmonary tuberculosis was the most common cause of death in the largest number of occupations. It was found most common among clerks, bookkeepers and office assistants (see Table 5), where it was responsible for 35 per cent of all the deaths. In the age period 25 to 34, 51.2 per cent of all the deaths were from this disease, whereas among all occupied males in this age period only 40.9 per cent of the deaths were from pulmonary tuberculosis. The index of tuberculosis mortality among clerks, bookkeepers and office assistants is, therefore, 125. This disease was also high among compositors and printers (see Table 7) and among teamsters, drivers and chauffeurs (see Table 15).

It was found least among coal miners (see Table 6), where it was responsible for only 5.8 per cent of all the deaths.



In the age period 25 to 34, we find only 11.9 per cent of all the deaths due to this disease. The index of tuberculosis mortality, therefore, is 29 per cent. This low index is characteristic of the disease among coal miners at all age periods up to 65. It might appear that the low proportionate mortality from pulmonary tuberculosis among coal miners is the result of the high proportion of deaths from accidental violence. Yet other respiratory diseases, such as pneumonia and acute chronic bronchitis, are even more prevalent among coal miners than among all occupied males. A fairly large proportion of tuberculosis is found among railway employees, who suffer from a higher proportion of accidents than do the coal miners. A high rate from accident is, therefore, not incompatible with a fairly normal rate from pulmonary tuberculosis. Coal miners seem to enjoy a very definite immunity from pulmonary tuberculosis. Future medical research, in determining just what the protective factor in the environment of the coal miner is, will make an advance in medicine of great practical value.

Organic diseases of the heart rank next in importance in our investigation. It is responsible for 12 per cent of all deaths in all age periods combined. Unlike tuberculosis, which is most prevalent at the younger ages, this disease reaches its highest point in the advanced age period, namely, 65 and over, where 20.4 per cent of all deaths are due to it. It is also the leading cause of death in the age period 55 to 64. It is found most prevalent among farmers and farm laborers, where it is responsible for one death in every six. This is not an indication of poor health conditions among them, however, for farmers live to a ripe old age and organic disease of the heart is, as we have shown, primarily a disease of the older ages. This disease is found least represented among railway enginemen and trainmen. Inferences must not be drawn too readily from the relative proportion of heart disease in various occupations, since it is one of the more unsatisfactory returns of cause of death found on certificates, obscuring in many instances more definite conditions which autopsy could determine.

Pneumonia, lobar and undefined, plays a very important part numerically in our study. The disease appears to be most common in occupations exposed to dust, in those exposed to alcohol, and also in those where there are sudden changes in temperature.

We accordingly find the highest proportionate mortality in such occupations as iron-molders, coal miners, laborers, saloon-keepers and bar-tenders, and teamsters, drivers and chauffeurs. Among iron-molders the highest index of mortality is in the age period 15 to 24, when there is 87 per cent more pneumonia recorded than is found in the same age period for all occupations. The lowest proportionate mortality is found among cigar-makers and tobacco workers, compositors and printers, and among railway enginemen and trainmen.

Alcoholism is one of the minor causes of death in our tabulation; yet it is so socially significant that reference will be made to it. It was responsible for only .9 per cent of all the deaths among all occupied males. This figure is clearly an understatement, because deaths which are due to alcoholism are often assigned to its major effects. Thus we find that those occupations which are most subject to alcoholism show also a higher rate from Bright's disease and cirrhosis of the liver. Alcoholism is found most prevalent among saloon-keepers and bar-tenders (see Table 14), among teamsters, drivers and chauffeurs (see Table 15), and among compositors and printers (see Table 7). Among saloon-keepers and bar-tenders, it was responsible for 3.4 per cent of the total deaths. In the age period 25 to 34, it caused 4.7 per cent of all deaths, and in the age period 35 to 44, 4.5 per cent. If we add to this the proportionate mortality from cirrhosis of the liver and Bright's disease we obtain 23.5 per cent of all the deaths. Among all occupied males, on the other hand, these three diseases in the age period 35 to 44 are responsible for only 12.5 per cent of all the deaths. The unfavorable effect of occupation upon saloon-keepers is, therefore, quite clear.

A strong positive correlation, in all probability, exists between the incidence of alcoholism and suicide. This latter cause was responsible in our investigation for 2.3 per cent of all the deaths at all ages (see Table 2). The proportion varies somewhat in the various age periods, but is greatest at ages 25 to 34. It is most prevalent among cigar-makers (see Table 4), saloon-keepers, and bar-tenders (see Table 14), machinists (see Table 11), and railway enginemen and trainmen (see Table 8); in other words, among occupations where the wear and tear on the nervous system is greatest. Its importance as a cause of death is least among coal miners (see Table 6), laborers



(see Table 10), and textile mill workers (see Table 16). Recent investigators have urged that suicide is a form of insanity. On this basis, it would appear that the high incidence of suicide among saloon-keepers and bar-tenders may be in part the result of the insanity induced by alcoholism. This opens up a fertile field of investigation for both the statistician and the psychiatrist. Yet the highest proportion of suicide is found among bakers, where 5.4 per cent of all deaths are caused by it.

Accidental violence is found most prevalent among enginemen and trainmen (see Table 8), coal miners (see Table 6), and railway, track and yard workers (see Table 13).

It is most highly represented at the younger ages in all these occupations. Thus, among railway enginemen and trainmen, the index of mortality for accidental violence in the age period 25 to 34 is 462, at the age period 55 to 64 this index is reduced to 263. These indices when compared with similar figures for European mortality experiences show how inadequate American methods of accident prevention still are.

Occupational diseases are represented in small numbers. Lead poisoning is found significant among painters, paper hangers and varnishers (see Table 12).

In this occupational group 2 per cent of all the deaths occurring were due to chronic lead poisoning, and in the age period 35 to 44 this proportion rose to 3.4 per cent. Other occupational diseases are so rarely recorded as not to warrant any special mention.

I shall now briefly review, as I proposed, a few of the more important occupations. This will fix in your minds some relations that indicate the effect of the work on the workers.

Cigar makers are interesting because of the high prevalence of tuberculosis and of suicide among them (see Table 4). The dusty character of the trade probably accounts for the first condition. In the age period 15 to 24 we find tuberculosis 43½ per cent in excess. The high proportionate mortality from suicide is best observed in the age period 65 and over, where the relative index is 260. Other observers have found the same condition but I frankly do not understand what conditions exist in this occupation that should result in nearly three times as much suicide as occurs among all occupations.

Among clerks, bookkeepers and office assistants the interesting condition is the high proportionate mortality from tuber-

culosis, which is especially noteworthy in the first age period. We find an excess of 37 per cent in the proportion. In the next age (see Table 5) period there is an excess of 25 per cent. These findings explain why it is that we find over one-third of all the deaths in this occupation due to tuberculosis. The age periods 15 to 24 and 25 to 34 include the largest number of clerks, since this is an occupation of young people.

The interesting fact about coal miners (see Table 6) is not the excess, but rather the slight representation, of one of the principal causes. You will note that tuberculosis is represented by only 5.8 per cent of the total, and in the very important age period 15 to 24 only 4 per cent of the deaths are so caused. In all occupations the figure was 33.8. Even among farmers and farm laborers, where there is a low rate from tuberculosis, the figure is 26.8 per cent in the age period 15 to 24; but I have already referred to this immunity of coal miners to tuberculosis. The high accident rate is, of course, expected from the nature of the work.

Railway enginemen and trainmen (see Table 8) require brief mention because of the very high accident proportions. In the age period 15 to 24 close to two-thirds of the deaths result from accidental violence. It is a curious fact that in this occupation we find the highest proportion of typhoid fever. Nearly 5 per cent of the deaths are from this cause. It is perhaps due to the impure drinking water which these workers must often use.

Painters, paperhangers and varnishers (see Table 12) illustrate an interesting point. These occupations, as you know, employ lead. Accordingly we find that 2 per cent of all the deaths are reported as resulting from lead poisoning. This figure is low in itself, but it is twenty times as large as among all occupations. I need hardly say to you that the 54 cases of chronic lead poisoning represented only the most pronounced cases. Many more must have occurred among this group as well as among other occupations which were ascribed by the physician to other conditions which were present at the time of death.

I have already emphasized the hazards to which saloon-keepers and bartenders are exposed (see Table 14). The proportion of alcoholism is high. In the age period 25 to 34, 4.7 per cent of the deaths are so caused, as compared with 1.4 for all occupations. In this same age period we find 6.3 per cent



of Bright's disease and 4.5 per cent of cirrhosis of the liver. Both of these figures are very much higher than in all occupations. We find more suicide also, but less of all other forms of violence.

Among teamsters, drivers and chauffeurs, we find a number of interesting facts. In the age periods 35 to 44 and 45 to 54 there is more tuberculosis, pneumonia and accidental violence. Each one of these causes points to a special hazard involved in the occupation.

I shall conclude this discussion with the following summary. I have pointed out two kinds of relationships between occupation and the conditions we find at death. In the first there is a clear and direct connection between the cause of death and the occupation of the deceased. Thus we note the obvious relation between the employment of lead in certain industries and the high proportionate mortality from lead poisoning; between the manufacture and sale of distilled liquors and the high mortality from alcoholism; between exposure to moving machines and the high mortality from accident.

The relationships of the second group are of a more insidious character. The injurious factors are usually discovered only after an intensive examination of the conditions prevailing in the occupations. Thus, when we consider a number of activities which give returns of a high proportionate mortality from tuberculosis, we find the presence of dust as a frequent concomitant to the industrial process. The dust may be mineral (as among masons and brick-layers), metallic (as among iron workers), or vegetable (as among cigar-makers and textile workers). The influence of posture is also found, on examination, to be important as a factor in the high tuberculosis rate; this is exemplified by certain inactive and sedentary occupations, like those of clerks, bookkeepers, and office assistants. In some occupations the unfavorable influence of the work is not at once evident, but makes itself increasingly felt with duration of service.

In a number of occupations interesting correlations have been observed between one disease and another. Thus the occurrence of an undue amount of alcoholism is associated almost invariably with an excess of cirrhosis of the liver and of Bright's disease, and frequently also with an undue amount of suicide. Where lead poisoning results in many deaths, cerebral hemorrhage, apoplexy and paralysis are frequent; even where lead poisoning is

not an important cause of death but where lead is in constant use, the proportionate mortality from cerebral hemorrhage, apoplexy and paralysis is high.

A number of relationships of a varied nature may be pointed out. The respiratory diseases are prominent where the industrial worker is exposed to colds, drafts, and dampness (as among masons and brick-layers), to violent changes in temperature (as among iron molders), or to changes in weather conditions (as among teamsters, drivers and chauffeurs). Organic diseases of the heart have a high proportional frequency in cases where the work is heavy and the cardiac powers are overtaxed (e. g., among iron molders). Suicide is frequent where worry and depressing influences are present (as among cigar-makers and machinists). Typhoid fever is high where questionable water supplies are used (as among enginemen, trainmen, farmers and laborers). Accidents ordinarily decrease as the duration of service and experience increases (e. g., among enginemen, trainmen, and railway, track and yard workers); in certain pursuits, however (e. g., among teamsters, drivers and chauffeurs), accidents increase as advancing age entails a falling off of muscular strength and activity. Alcoholism is prominent in certain occupations where irritation of the throat is involved in industrial work (as among masons and brick-layers), where hot processes are engaged in (as among iron molders), or where lead is used (as among painters, paperhangers and varnishers).

It should be observed that mortality conditions, as we have discussed them above, are not the only measures of the effect of industrial work. Men suffer from numerous occupational diseases which do not directly cause death. Secondary and terminal diseases often occur, which cover up the condition that originally caused or accelerated the death. It is therefore of the greatest importance that living workers be examined and that the diseases from which they suffer be accurately recorded. Therein lies the great advantage of periodic examinations of workers, and in particular, of the recent investigations of Hayhurst, Schereschewsky and others who have recorded the physical defects in large numbers of persons engaged in various industries. Their findings often explain the facts as disclosed in studies of occupational mortality, and supplement these facts with a wealth of detail which mortality returns cannot disclose.



TABLE 1.

OCCUPATIONS OF **WHITE MALE DECEDENTS**—AGES 15 AND OVER.

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913.

OCCUPATION	No. of Deaths.	Per cent. of Total
All Occupations (excluding "Retired").....	94269	100.0
Laborers (undefined) .....	10748	11.4
Teamsters, Drivers and Chauffeurs.....	6471	6.9
Clerks, Bookkeepers and Office Assistants.....	4139	4.4
Carpenters . .....	3917	4.2
Farmers and Farm Laborers.....	3890	4.1
Machinists . .....	3152	3.3
Painters, Paper-hangers and Varnishers.....	2722	2.9
Policemen, Watchmen and Guards.....	2407	2.6
Store Clerks and Salesmen.....	2396	2.5
Textile Mill Workers.....	2390	2.5
Merchants and Storekeepers.....	2260	2.4
Saloon-keepers and Bartenders.....	2190	2.3
Railway Track and Yard Workers.....	1932	2.0
Janitors and Building Employees.....	1770	1.9
Masons and Bricklayers.....	1748	1.9
Iron Moulders .....	1646	1.7
Coal Miners .....	1557	1.7
Shoemakers . .....	1452	1.5
Stationary Engineers and Firemen.....	1443	1.5
Children, Students and Scholars.....	1437	1.5
Blacksmiths . .....	1273	1.4
Professional Service .....	1186	1.3
Agents and Canvassers.....	1183	1.3
Plumbers, Gas and Steam Fitters.....	1153	1.2
Tailors and Garment Workers.....	1095	1.2
Compositors and Printers.....	1056	1.1
Railway Enginemen and Trainmen.....	947	1.0
Street Railway Employees.....	868	.9
Hostlers and Stablemen.....	832	.9
Hucksters and Peddlers.....	829	.9
Sailors and Marine Workers.....	787	.8
Iron and Steel Mill Workers.....	762	.8
Waiters . .....	758	.8
Cabinet and Furniture Makers.....	757	.8
Cigar Makers and Tobacco Workers.....	693	.7
Leather Goods Workers.....	662	.7
Bakers . .....	654	.7
Longshoremen and Stevedores.....	651	.7
Tinners and Tinware Workers.....	614	.7
Street and Sewer Cleaners.....	609	.6
Electricians . .....	596	.6
Barbers . .....	582	.6
Coopers . .....	521	.6
All Other Occupations.....	15534	16.5

TABLE 2

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES, IN **ALL OCCUPATIONS** (EXCLUDING "RETIRED") BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913.

CAUSE OF DEATH	Inter-national List No.	Age 15 & Over		15-24		25-34		35-44		45-54		55-64		65 & Over		Average Age at Death
		No. of Deaths	Per cent.	No. of Deaths	Per cent.	No. of Deaths	Per cent.	No. of Deaths	Per cent.	No. of Deaths	Per cent.	No. of Deaths	Per cent.	No. of Deaths	Per cent.	
All causes	.....	94269	100.0	11116	100.0	12953	100.0	15242	100.0	16696	100.0	19135	100.0	19127	100.0	47.9
Typhoid fever	1	1390	1.5	581	5.2	356	2.7	211	1.4	128	.8	81	.4	33	.2	31.1
Influenza	10	769	.8	64	.6	65	.5	94	.6	113	.7	189	.9	244	1.3	53.3
Tuberculosis of the lungs	28, 29	19349	20.5	3753	33.8	5292	40.9	5017	32.9	3084	18.5	1640	8.6	563	2.9	37.1
Cancer (all forms)	39-45	4578	4.9	76	.7	103	.8	357	2.3	989	5.9	1665	8.7	1388	7.3	57.8
Acute articular rheumatism	47	380	.4	105	.9	46	.4	52	.3	75	.4	51	.3	51	.3	41.1
Chronic rheumatism and gout	48	69	.1	4	.....	6	.....	6	.....	10	.1	20	.1	23	.1	54.9
Diabetes	50	913	1.0	110	1.0	92	.7	100	.7	171	1.0	249	1.3	191	1.0	49.7
Alcoholism	56	889	.9	21	.2	182	1.4	314	2.1	227	1.4	106	.6	39	.2	43.1
Chronic lead poisoning	57	81	.1	3	.....	8	.1	24	.2	24	.1	14	.1	8	.....	47.5
Other occupational and chronic poisonings	58, 59	31	.....	4	.....	4	.....	7	.....	7	.....	4	.....	5	.....	45.8
Cerebral hemorrhage, apoplexy & paralysis	64, 66	5825	6.2	52	.5	160	1.2	350	2.3	864	5.2	1845	9.6	2554	13.4	60.9
Organic diseases of the heart	70	11323	12.0	640	5.8	697	5.4	1181	7.7	1850	11.1	3048	15.9	3907	20.4	55.6
Acute and chronic bronchitis	89, 90	804	.9	30	.3	36	.3	52	.3	103	.6	213	1.1	370	1.9	59.9
Pneumonia (lobar & undefined)	92	6776	7.2	599	5.4	952	7.3	1228	8.1	1369	8.2	1431	7.5	1197	6.3	48.1
Pleurisy	93	276	.3	46	.4	30	.2	40	.3	59	.4	55	.3	46	.2	46.1
Cirrhosis of the liver	113	2136	2.3	22	.2	154	1.2	389	2.6	635	3.8	593	3.1	343	1.8	52.0
Bright's disease	120	9059	9.6	276	2.5	577	4.5	1190	7.8	1851	11.1	2553	13.3	2612	13.7	55.1
Suicide (all forms)	155-163	2150	2.3	308	2.8	402	3.1	436	2.9	428	2.6	383	2.0	193	1.0	43.1
Accidental violence	165-181	8752	9.3	2130	19.2	1616	12.5	1516	9.9	1419	8.5	1236	6.5	835	4.4	39.3
All other cases of death	185, 186	18719	19.9	2292	20.6	2175	16.8	2678	17.5	3290	19.7	3759	19.6	4525	23.9	.....

\*Percentage, deaths from specified causes, of deaths from all cases in age period.



TABLE 3

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG **BLACKSMITHS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over	AGE PERIOD					Average Age at Death
		15-24	25-34	35-44	45-54	55-64	
	No. of Deaths	Pct.	Pct.	Pct.	Pct.	Pct.	
		†(47)	†(87)	†(165)	†(235)	†(337)	†(402)
All causes .....	1273	100.0	100.0	100.0	100.0	100.0	100.0
Tuberculosis of the lungs.....	178	14.0	29.8	35.8	17.0	8.3	3.0
Cancer (all forms).....	97	7.6	1.1	1.8	6.8	12.8	8.5
Diabetes .....	20	1.6	1.1	1.2	.4	2.7	1.2
Alcoholism .....	14	1.1	1.1	2.4	2.6	.9	.....
Cerebral hemorrhage, apoplexy and paralysis.....	106	8.3	2.3	.6	8.1	10.7	11.9
Organic diseases of the heart.....	176	13.8	8.0	5.5	11.5	15.1	20.4
Acute and chronic bronchitis.....	12	.9	.....	.6	1.3	.6	1.5
Pneumonia, lobar and undefined.....	86	6.8	13.8	7.3	7.2	7.1	4.7
Cirrhosis of the liver.....	33	2.6	2.3	2.4	3.4	2.4	2.7
Bright's disease .....	151	11.9	6.9	6.7	11.1	12.5	15.9
Suicide (all forms).....	30	2.4	3.4	5.5	3.4	1.2	.7
Accidental violence .....	69	5.4	12.6	5.5	4.2	5.0	3.2
All other causes.....	301	23.6	18.3	24.8	23.0	20.8	26.1

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.

TABLE 4

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG **CIGAR MAKERS** AND **TOBACCO WORKERS** BY AGE PERIODS OVER FIFTEEN  
YEARS—WHITE MALES

CAUSE OF DEATH	Company—Industrial Department—Mortality Experience, 1911-1913									
	Metropolitan Life Insurance		Ages 15 and over		AGE PERIOD				Average Age at Death	
	No. of Deaths	*Pct.	15-24	25-34	35-44	45-54	55-64	65 and over	Pct.	Pct.
All causes .....		†(693)	†(66)	†(98)	†(95)	†(121)	†(158)	†(155)		
Tuberculosis of the lungs.....	693	100.0	100.0	100.0	100.0	100.0	100.0	100.0		49.5
Cancer (all forms).....	167	24.1	48.5	44.9	41.1	25.6	11.4	1.9		37.9
Cerebral hemorrhage, apoplexy and paralysis.....	36	5.2	.....	1.0	4.2	7.4	7.6	6.5		57.3
Organic diseases of the heart.....	45	6.5	.....	2.0	4.2	3.3	11.4	11.0		60.0
Pneumonia, lobar and undefined.....	81	11.7	4.5	8.2	9.5	9.9	15.2	16.1		54.7
Cirrhosis of the liver.....	32	4.6	1.5	7.1	5.3	2.5	5.1	5.2		50.2
Bright's disease .....	28	4.0	.....	1.0	2.1	7.4	6.3	3.9		56.2
Suicide (all forms).....	70	10.1	.....	4.1	3.2	12.4	13.3	17.4		59.4
Accidental violence .....	22	3.2	3.0	2.0	4.2	3.3	3.8	2.6		49.3
All other causes.....	32	4.6	7.5	4.1	9.5	5.0	1.3	3.9		43.8
	180	25.9	34.8	25.4	16.9	23.0	24.5	31.5		.....

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.





TABLE 6

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG **COAL MINERS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over		AGE PERIOD								Average			
	No. of Deaths	*Pct.	15-24		25-34		35-44		45-54		55-64		65 and over	Age at Death
			Pct.	†(151)	Pct.	†(135)	Pct.	†(182)	Pct.	†(319)	Pct.	†(407)		
All causes .....	1557	100.0		100.0		100.0		100.0		100.0		100.0		51.3
Influenza .....	23	1.5		.7		.....		1.6		.6		2.2		58.9
Tuberculosis of the lungs.....	91	5.8		4.0		11.9		12.1		6.6		3.4		45.8
Cancer (all forms).....	71	4.6		.7		1.5		2.7		3.4		6.9		58.9
Cerebral hemorrhage, apoplexy and paralysis....	94	6.0		.7		.7		1.6		4.1		7.6		62.3
Organic diseases of the heart.....	149	9.6		2.6		4.4		6.6		8.8		10.8		57.9
Acute and chronic bronchitis.....	49	3.1		.....		.....		1.1		1.6		4.2		63.6
Pneumonia, lobar and undefined.....	161	10.3		4.6		7.4		10.4		14.7		11.3		53.1
Cirrhosis of the liver.....	37	2.4		.....		.7		1.1		4.1		2.9		56.4
Bright's disease .....	116	7.5		.....		1.5		6.6		7.8		11.5		58.3
Suicide (all forms).....	18	1.2		.7		2.2		2.2		2.2		.7		44.6
Accidental violence .....	317	20.3		62.9		43.7		30.7		15.7		10.3		36.6
All other causes.....	431	27.7		23.2		25.9		22.9		30.4		28.0		.....

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.



TABLE 7

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES, AMONG **COMPOSITORS** AND **PRINTERS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over	AGE PERIOD						Average Age at Death
		15-24	25-34	35-44	45-54	55-64	65 and over	
No. of Deaths	*Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	
	†(1056)	†(217)	†(221)	†(225)	†(176)	†(120)	†(97)	
All causes .....	1056	100.0	100.0	100.0	100.0	100.0	100.0	40.2
Typhoid fever .....	22	2.1	4.5	1.8	.6	.....	.....	27.9
Tuberculosis of the lungs.....	360	34.1	49.8	39.1	23.9	15.8	3.1	33.5
Cancer (all forms).....	28	2.7	.5	1.3	5.1	5.0	7.2	54.0
Cerebral hemorrhage, apoplexy and paralysis.....	38	3.6	.9	2.2	6.8	5.8	12.4	56.9
Organic diseases of the heart.....	118	11.2	6.0	5.9	10.2	13.1	23.7	48.2
Pneumonia, lobar and undefined.....	52	4.9	4.6	7.2	2.7	5.1	4.1	39.7
Cirrhosis of the liver.....	19	1.8	.5	.5	1.3	2.3	2.1	52.1
Bright's disease .....	94	8.9	1.4	3.6	10.7	18.2	13.4	48.7
Suicide (all forms).....	19	1.8	3.2	3.2	1.3	.6	1.0	30.6
Accidental violence .....	62	5.9	10.1	5.4	4.8	7.4	2.1	33.9
All other causes.....	244	23.2	24.9	18.8	24.4	17.1	30.9	.....

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.

TABLE 8

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG **RAILWAY ENGINEMEN** AND **TRAINMEN** BY AGE PERIODS OVER FIFTEEN  
YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913													
CAUSE OF DEATH	Ages 15 and over		AGE PERIOD								Average Age at Death		
	No. of Deaths	*Pct. †(947)	15-24		25-34		35-44		45-54			55-64	65 and over
			Pct. †(203)	Pct. †(300)	Pct. †(173)	Pct. †(109)	Pct. †(94)	Pct. †(68)					
All causes .....	947	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	37.4	
Typhoid fever .....	26	2.7	4.9	3.3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	28.1	
Tuberculosis of the lungs.....	133	14.0	11.8	14.7	24.9	13.8	7.4	7.4	7.4	7.4	7.4	34.8	
Cancer (all forms).....	19	2.0	1.0	.7	1.7	.9	5.3	8.8	5.3	5.3	5.3	51.2	
Cerebral hemorrhage, apoplexy and paralysis.....	32	3.4	.....	.3	1.2	6.4	13.8	13.2	6.4	13.8	13.2	58.4	
Organic diseases of the heart.....	51	5.4	1.0	1.3	5.2	10.1	13.8	17.6	10.1	13.8	17.6	52.2	
Pneumonia, lobar and undefined.....	48	5.1	2.0	4.7	6.9	9.2	6.4	2.9	9.2	6.4	2.9	41.1	
Cirrhosis of the liver.....	12	1.3	.....	.7	1.2	4.6	2.1	1.5	4.6	2.1	1.5	47.7	
Bright's disease .....	52	5.5	1.0	2.0	7.5	9.2	10.6	16.2	9.2	10.6	16.2	50.0	
Suicide (all forms).....	23	2.4	2.5	2.3	2.9	2.8	2.1	1.5	2.8	2.1	1.5	36.7	
Accidental violence .....	401	42.4	66.5	57.7	30.0	18.3	17.1	7.4	18.3	17.1	7.4	30.1	
All other causes.....	150	15.7	9.4	12.2	15.1	24.7	21.3	30.9	24.7	21.3	30.9	.....	

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.



TABLE 9

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG FARMERS AND FARM LABORERS BY AGE PERIODS OVER FIFTEEN  
YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over	AGE PERIOD								Average Age at Death
		No. of Deaths	*Pct.	15-24	25-34	35-44	45-54	55-64	65 and over	
				Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	
All causes .....		3890	†(3890)	100.0	100.0	100.0	100.0	100.0	100.0	58.5
Typhoid fever .....		53	1.4	9.2	5.1	1.9	.7	.8	.3	35.5
Influenza .....		53	1.4	.....	1.0	1.1	1.6	1.6	1.4	61.4
Tuberculosis of the lungs .....		378	9.7	26.8	31.8	30.5	13.9	6.7	2.4	43.2
Cancer (all forms) .....		295	7.6	2.1	1.5	4.1	6.0	10.4	8.3	62.5
Cerebral hemorrhage, apoplexy and paralysis .....		379	9.7	.8	2.5	1.5	4.4	9.8	14.3	66.4
Organic diseases of the heart .....		641	16.5	5.9	3.5	6.8	13.7	18.5	20.4	63.6
Pneumonia, lobar and undefined .....		241	6.2	8.4	6.6	7.1	7.7	5.9	5.5	56.1
Cirrhosis of the liver .....		81	2.1	.4	.....	1.9	3.7	2.9	1.7	60.0
Bright's disease .....		350	9.0	1.3	5.1	3.0	10.2	9.0	11.1	63.5
Suicide (all forms) .....		84	2.2	4.6	2.0	4.1	3.0	2.6	1.1	50.8
Accidental violence .....		316	8.1	25.5	16.2	11.3	9.0	8.0	4.3	46.8
All other causes .....		1019	26.2	15.1	24.7	26.8	26.0	23.9	29.1	.....

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.

TABLE 10

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG **LABORERS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over	AGE PERIOD								Average Age at Death
		No. of Deaths	*Pct.	15-24	25-34	35-44	45-54	55-64	65 and over	
		†(10748)	†(622)	†(1026)	†(1453)	†(2049)	†(2732)	†(2866)		
All causes .....		10748	100.0	100.0	100.0	100.0	100.0	100.0	100.0	52.8
Typhoid fever .....		113	1.1	6.3	3.0	.7	.9	.3	.2	34.6
Tuberculosis of the lungs.....		1760	16.4	30.5	34.8	33.9	20.1	8.1	3.1	41.8
Cancer (all forms).....		594	5.5	.5	.8	3.3	5.1	8.6	6.8	59.1
Alcoholism .....		117	1.1	.....	2.3	2.5	1.8	.5	.2	44.2
Cerebral hemorrhage, apoplexy and paralysis.....		746	6.9	.6	1.2	2.0	5.4	10.0	11.1	61.6
Organic diseases of the heart.....		1517	14.1	4.2	6.7	7.1	11.8	15.7	22.7	59.2
Acute and chronic bronchitis.....		123	1.1	.3	.2	.3	.6	1.6	2.0	62.6
Pneumonia, lobar and undefined.....		964	9.0	5.6	10.3	9.7	9.5	9.8	7.6	52.5
Cirrhosis of the liver.....		206	1.9	.2	1.0	1.5	2.8	2.8	1.4	55.2
Bright's disease .....		1055	9.8	1.8	5.4	6.8	10.2	11.9	12.5	57.7
Suicide (all forms).....		186	1.7	4.8	2.9	2.1	1.5	1.7	.7	44.9
Accidental violence .....		889	8.2	21.6	11.7	10.6	9.2	6.5	4.1	44.6
All other causes.....		2478	23.0	23.8	19.7	19.3	21.1	22.5	27.5	.....

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.



TABLE 11

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES, AMONG **MACHINISTS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over		AGE PERIOD								Average Age at Death
	No. of Deaths	*Pct.	15-24	25-34	35-44	45-54	55-64	65 and over	Pct.	Pct.	
		†(3152)	†(573)	†(565)	†(500)	†(509)	†(516)	†(489)			
All causes .....	3152	100.0	100.0	100.0	100.0	100.0	100.0	100.0			43.9
Typhoid fever .....	72	2.3	6.8	3.2	1.8	.8	.4	.....			27.1
Tuberculosis of the lungs.....	789	25.0	39.4	44.8	30.4	18.9	9.7	2.5			33.7
Cancer (all forms).....	143	4.5	.9	.7	2.8	6.7	10.7	6.3			55.1
Cerebral hemorrhage, apoplexy and paralysis.....	153	4.9	.2	.9	2.8	5.3	8.3	12.9			59.7
Organic diseases of the heart.....	350	11.1	3.3	5.7	9.2	13.9	16.7	19.6			53.2
Pneumonia, lobar and undefined.....	223	7.1	5.8	6.5	7.6	7.3	8.7	6.7			44.9
Cirrhosis of the liver.....	57	1.8	.....	1.1	3.0	2.8	2.5	1.8			50.2
Bright's disease .....	269	8.5	1.9	2.8	8.0	8.4	15.7	16.0			55.0
Suicide (all forms).....	81	2.6	1.6	3.5	3.2	3.3	1.4	2.5			43.8
Accidental violence .....	338	10.7	21.8	11.2	10.0	8.9	6.3	4.7			34.7
All other causes.....	677	21.5	18.4	19.7	21.2	23.8	19.9	26.9			.....

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.

TABLE 12

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES, AMONG **PAINTERS, PAPER HANGERS AND VARNISHERS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913									
CAUSE OF DEATH	Ages 15 and over		AGE PERIOD					Average	
	No. of Deaths	*Pct. †(2722)	15-24	25-34	35-44	45-54	55-64	65 and over	Age at Death
			Pct. †(166)	Pct. †(368)	Pct. †(552)	Pct. †(592)	Pct. †(592)	Pct. †(452)	
All causes .....	2722	100.0	100.0	100.0	100.0	100.0	100.0	100.0	48.6
Tuberculosis of the lungs.....	596	21.9	31.3	42.9	34.6	19.6	11.3	2.7	39.9
Cancer (all forms).....	111	4.1	.6	.5	1.8	3.9	6.9	7.5	57.7
Diabetes .....	15	.6	1.2	.5	.7	.5	.7	.....	43.3
Alcoholism .....	30	1.1	1.2	1.6	2.5	1.0	.3	.....	39.1
Chronic lead poisoning.....	54	2.0	.6	1.1	3.4	2.5	1.9	.9	47.7
Cerebral hemorrhage, apoplexy and paralysis.....	208	7.6	.6	.8	3.3	5.6	12.3	17.7	60.0
Organic diseases of the heart.....	290	10.7	4.2	4.6	8.0	10.6	12.3	19.0	55.2
Pneumonia, lobar and undefined.....	167	6.1	3.6	6.2	5.3	8.8	6.1	4.6	49.0
Cirrhosis of the liver.....	70	2.6	.6	1.4	2.4	5.2	2.7	.9	49.1
Bright's disease .....	331	12.2	1.8	4.9	9.2	12.5	18.6	16.6	54.8
Suicide (all forms).....	55	2.0	5.4	3.0	2.7	2.0	1.2	.2	40.0
Accidental violence .....	238	8.8	19.3	14.4	8.8	6.9	7.6	4.0	41.7
All other causes.....	557	20.4	29.5	17.8	17.2	20.7	18.1	25.8	.....

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.



TABLE 13

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES, AMONG RAILWAY, TRACK, AND YARD WORKERS BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over					AGE PERIOD					Average	
	No. of Deaths					Pct.					Age at Death	
	1932	†(1932)	15-24	25-34	35-44	45-54	55-64	65 and over	Pct.	Pct.	Age at Death	Pct.
All causes .....	1932	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	50.7	100.0
Typhoid fever .....	29	1.5	6.2	4.1	1.3	1.2	.2	.....	.....	.....	31.2	.....
Influenza .....	23	1.2	.....	.8	.4	2.1	1.5	1.3	1.3	1.3	55.8	1.3
Tuberculosis of the lungs.....	215	11.1	18.6	27.2	21.1	10.2	5.1	1.9	5.1	1.9	38.5	1.9
Cancer (all forms).....	90	4.7	.....	1.2	2.6	4.5	8.4	5.5	8.4	5.5	59.0	5.5
Cerebral hemorrhage, apoplexy and paralysis.....	139	7.2	.6	1.6	1.7	5.1	10.1	13.8	10.1	13.8	61.7	13.8
Organic diseases of the heart.....	231	12.0	2.3	3.7	6.0	9.9	13.7	22.5	13.7	22.5	60.1	22.5
Acute and chronic bronchitis.....	26	1.3	1.1	.....	.....	.9	1.7	2.8	1.7	2.8	60.9	2.8
Pneumonia, lobar and undefined.....	123	6.4	3.4	4.9	6.5	6.0	7.4	7.4	7.4	7.4	53.9	7.4
Cirrhosis of the liver.....	37	1.9	.....	.8	1.7	3.9	2.1	1.7	2.1	1.7	54.1	1.7
Bright's disease .....	163	8.4	.6	2.9	6.0	10.8	11.4	10.8	11.4	10.8	57.6	10.8
Suicide (all forms).....	26	1.3	1.7	2.1	2.2	2.4	.6	.4	.6	.4	43.3	.4
Accidental violence .....	402	20.8	43.5	34.6	32.3	19.5	13.0	8.3	13.0	8.3	41.4	8.3
All other causes.....	428	22.3	22.1	16.0	18.2	23.7	24.8	23.5	24.8	23.5	.....	23.5

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.

TABLE 14

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG **SALOON KEEPERS** AND **BARTENDERS** BY AGE PERIODS OVER FIFTEEN  
YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913												
CAUSE OF DEATH		Ages 15 and over		AGE PERIOD						Average Age at Death		
	No. of Deaths	*Pct. †(2190)	15-24 †(57)	25-34 †(492)	35-44 †(775)	45-54 †(535)	55-64 †(243)	65 and over †(88)				
All causes .....	2190	100.0	100.0	100.0	100.0	100.0	100.0	100.0			42.6	
Tuberculosis of the lungs.....	570	26.0	45.6	39.2	31.2	15.3	9.9	3.4			37.5	
Cancer (all forms).....	60	2.7	.....	.2	2.1	3.9	7.8	3.4			50.7	
Diabetes .....	25	1.1	.....	.4	.9	1.3	3.3	1.1			48.7	
Alcoholism .....	75	3.4	3.5	4.7	4.5	2.2	1.2	.....			38.8	
Cerebral hemorrhage, apoplexy and paralysis.....	94	4.3	.....	1.6	3.1	5.8	7.8	13.6			49.7	
Organic diseases of the heart.....	181	8.3	7.0	6.9	8.3	6.7	13.2	12.5			44.7	
Pneumonia, lobar and undefined.....	191	8.7	5.3	8.7	9.0	10.8	5.8	3.4			41.2	
Cirrhosis of the liver.....	165	7.5	.....	4.5	8.3	10.7	6.6	6.8			44.4	
Bright's disease .....	267	12.2	3.5	6.3	10.7	17.4	18.1	15.9			46.8	
Suicide (all forms).....	60	2.7	3.5	3.9	2.3	1.9	3.7	2.3			41.2	
Accidental violence .....	72	3.2	5.3	4.0	2.1	3.5	3.3	6.8			42.2	
All other causes.....	430	19.7	26.3	19.5	17.4	20.4	19.3	30.6			.....	

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.



TABLE 15

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES, AMONG **TEAMSTERS, DRIVERS AND CHAUFFEURS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913															
CAUSE OF DEATH	Ages 15 and over		AGE PERIOD										Average Age at Death		
	No. of Deaths	*Pct. †(6471)	15-24 †(768)		25-34 †(1498)		35-44 †(1579)		45-54 †(1152)		55-64 †(818)			65 and over †(656)	
			Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.		Pct.	
All causes .....	6471	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	42.2	
Tuberculosis of the lungs.....	1825	28.2	36.6	42.7	35.7	20.2	10.0	4.0	35.5					35.5	
Cancer (all forms).....	234	3.6	.5	.7	2.2	5.9	8.2	7.6	54.1					54.1	
Alcoholism .....	101	1.6	.7	2.4	2.5	1.0	.9	.2	37.4					37.4	
Cerebral hemorrhage, apoplexy and paralysis.....	276	4.3	.3	1.4	2.0	4.4	9.4	14.2	56.3					56.3	
Organic diseases of the heart.....	628	9.7	6.8	5.9	7.3	9.9	15.9	19.4	48.8					48.8	
Pneumonia, lobar and undefined.....	550	8.5	7.3	10.5	8.6	9.5	6.8	5.5	40.8					40.8	
Cirrhosis of the liver.....	133	2.1	.4	1.3	2.3	4.0	2.3	1.2	45.5					45.5	
Bright's disease .....	550	8.5	2.6	4.6	7.9	11.6	11.7	16.3	49.5					49.5	
Suicide (all forms).....	132	2.0	3.3	2.6	1.9	2.4	.9	.5	36.6					36.6	
Accidental violence .....	665	10.3	17.1	9.8	10.4	10.7	7.8	5.5	38.5					38.5	
All other causes.....	1377	21.2	24.6	18.1	19.2	20.2	25.9	26.0	.....					.....	

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.

TABLE 16

NUMBER OF DEATHS FROM PRINCIPAL CAUSES, AND PERCENTAGE OF EACH CAUSE TO ALL CAUSES,  
AMONG **TEXTILE MILL WORKERS** BY AGE PERIODS OVER FIFTEEN YEARS—WHITE MALES

Metropolitan Life Insurance Company—Industrial Department—Mortality Experience, 1911-1913

CAUSE OF DEATH	Ages 15 and over	AGE PERIOD								Average Age at Death
		No. of Deaths	*Pct.	15-24	25-34	35-44	45-54	55-64	65 and over	
			†(2390)	Pct.	†(282)	Pct.	†(399)	Pct.	†(521)	
All causes .....	2390	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	47.6
Typhoid fever .....	55	2.3	6.8	5.3	1.3	1.5	.8			29.4
Influenza .....	22	.9	.5	1.1	.6	1.0	1.2	1.0	1.0	51.4
Tuberculosis of the lungs.....	525	22.0	36.8	47.5	37.7	18.0	8.9	3.3	3.3	35.4
Cancer (all forms).....	99	4.1	.8	.4	1.3	4.8	7.1	7.1	7.1	59.0
Diabetes .....	29	1.2	.8	.4	1.3	1.5	2.0	1.0	1.0	51.1
Alcoholism .....	19	.8		.7	2.6	1.8	.2	.2	.2	45.1
Cerebral hemorrhage, apoplexy and paralysis.....	146	6.1		.4	1.0	5.8	9.9	13.4	13.4	62.5
Organic diseases of the heart.....	290	12.1	3.9	5.7	5.5	10.3	17.0	22.5	22.5	57.7
Pneumonia, lobar and undefined.....	142	5.9	4.4	4.3	9.0	6.3	5.7	6.1	6.1	49.0
Cirrhosis of the liver.....	42	1.8		1.8	2.6	2.5	2.4	1.3	1.3	52.0
Bright's disease .....	208	8.7	3.1	2.5	7.1	12.5	12.1	10.9	10.9	54.4
Suicide (all forms).....	43	1.8	2.3	1.4	1.0	3.5	1.4	1.2	1.2	45.4
Accidental violence .....	184	7.7	11.8	8.2	10.7	7.5	5.4	5.0	5.0	40.3
All other causes.....	586	24.4	28.7	20.6	18.3	23.0	25.9	27.1	27.1	

\*Per cent deaths from specified causes, of deaths from all causes in age period.

†Superposed figures denote total deaths, all causes, in specified age period.



## SOME MEDICAL AND SURGICAL FALLACIES CONCERNING GASTROINTESTINAL DERANGEMENTS

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For generations we have had handed down to us with more or less additions a vast mixture of wisdom and prejudices, superstitions and misconceptions concerning what, when and how we should eat. It has been difficult for those in need of advice and still more so for the physician to separate the wheat from the chaff—while the diagnosis, treatment and especially correct diet has been biased by the extent to which the physician has been imbibing this lore of the table and has permitted the rubbish, dust and cobwebs to cling to him, without challenge as to its being in accord with medical science. Even as great an authority as Boas is so tainted with such bias that he credited Americans with being a dyspeptic people largely through our pie and ice cream, popular and innocent though they are. In fact, there is nothing in the constituents of either of these foods which would prove injurious to any dyspeptic, *properly eaten*. If I should call either people dyspeptic, by comparison, as well as by observation, it would be the Germans with their many daily meals and overindulgence in food merely because it is well cooked and tastes good. The endless number of Kurs all over Germany, well patronized by the dyspeptic, is a proof.

### The Proper Role of Appetite, Hunger, Thirst and Satiety

Among the most common of accepted precepts of the laity and of most of the medical profession is, "Do not eat or drink unless you have appetite or desire, and conversely, if you feel hungry or thirsty it matters not what or when, it is only the call of nature and cannot be wrong to indulge in that desire." Upon a more critical analysis it will be easy to prove that it is not our appetite or desire alone that should guide us, but the actual temporary and continuous needs of our body coupled with the ability to properly care for what we desire. While the animal eats guided only by instinct, and the animal in us would do likewise, as witnessed by the insane, the sane human being is halted and finally guided by his higher centers, his reason, judgment and will, which not alone receive these messages of animal instinct but also those that appeal to his reason and judgment as to the urgency

and correctness or falseness of the desire—the expediency, the benefit or injury that might occur, until final judgment is passed upon the pros and cons and his will is controlled accordingly.

### **To Eat or Not to Eat, That Is the Question**

What is required at all times by the individual is the maintenance of a 100 per cent efficiency of body vigor and resistance—against the assaults of infection and other disease processes—by adequate nutrition, rest, and elimination of toxic waste. On the contrary, indulgence in excessive amounts of food or in incorrect eating or drinking, by lowering the body defences or by overtaxing the vegetative mechanism, must result in damage to the body. That gluttony is wrong and injurious needs no proof, in spite of the fact that the glutton is guided by his apparently natural insatiable appetite and desire. Nature calls and why should he not obey? The uncontrollable human being is not a *natural human* being—he lacks the psychic control. Conversely, those who refuse to eat or drink, believe, because of natural lack of appetite, they are rightfully obeying their natural right to shun food. There are two mental classes, we are told, the sane and the insane. The sane are in full control of their mental faculties and can, by the absolute control they possess over their feelings, force themselves to eat or drink whatever they accept as essential, however difficult, through exercise of their indomitable power of will to perfectly master their desires, feelings and habits—their strongest likes and dislikes. The same power of control that will make a normal eater out of a gourmand, will, conversely, compel those who seem completely to have lost their appetites to eat again in proper quantity and quality to restore them, if not too late, and save them from tuberculosis and invalidism and overcome these if the supreme effort is made. It is this *continued daily deficiency of food* among the poor, the overworked, the overworried, the sleepless, that *greater than all other causes* predisposes, breeds and produces our consumptives, and, if unchecked, soon destroys them—whereas I contend that in most cases, with a constant sufficiency of this one essential means of defense, FOOD of proper quantity and quality, we can prevent and arrest the ravages of tuberculosis long after it has gained a foothold.

A fifteen-year-old girl, emaciated with a bronchitis of several weeks duration and a fever of 101 to 102 degrees, refused to eat in spite of her mother's pleadings and coaxings.



"Elsie," said I, "do you love children?"

"Yes, dearly."

"Suppose that you were the mother of three or four deaf and dumb little children, and you had to leave them in the care of a neighbor, who had promised to take as good care of them as if they were her own. When you came back you saw that they were nicely washed, dressed and combed, but their tears and looks told at once that they had not been fed for days and days, what would you do to your neighbor?"

"I'd tear her hair out," said Elsie.

"Well, suppose she would reply, 'They never asked for anything and I didn't know that I was to feed them,' what would you say?"

Elsie said, "I'd tell her, 'You chump, don't you know that they are deaf and dumb and CAN'T ASK, but you ought to *know* enough to feed them *anyway*.'"

"Elsie," I said, as I held up her thin arms, "you are that chump, that bad neighbor, yourself. Look at these, your poor deaf and dumb children, your arms and legs, your brain, your heart, your lungs and all the rest. Your creator has left them in your charge. Nobody but you can feed them or answer their cry for food. Every day you have driven them starved and tired to work as your slaves and selfishly thought it is too much trouble and distress to eat when without appetite; to swallow your food and digest it. A real mother will go through fire and smoke for her children, for where there's a will there's a way."

Daily for a week Elsie ate six eggs with other food. She was free from fever in two days and went back to her home in Canada in two weeks—her lesson well learned. This story of Elsie has often helped me out. I told it to a T. B. patient who had been sent back from Denver without benefit. I insisted on her being weighed once a week. Six months later I received a letter telling me of her gain of 60 pounds and saying, "I am proud of my children now; I mean my arms and legs."

#### Will Power

"No power on earth will make me quit using tobacco," said a young man in my waiting-room before consulting me, but he did stop using it, and gained 20 pounds the first month, after I told him what a perpetual force of indomitable will he had at his command; besides that, he regained his health.

### False Feeling of Weight and Fullness

The average stomach holds three pints of fluid, weighing 3 pounds or 48 ounces, yet after a mouthful of food patients with myasthenic or hyperesthetic stomachs, feel a false sense of overweight and stop eating because they *feel* too full and fear lest they overeat. This is especially so in the morning. To correctly educate and convince them, it may be best to have them take, instead of a breakfast, four to six glasses of water (not too hot or too cold). After two or three days these stomachs become accustomed to such a load and will tolerate a reasonable weight of food for that meal. Of course, no food should be permitted for at least two hours after such a water breakfast.

### Fermentation—Eructation of Gas

Rifting up, belching of gas and hiccough are associated in the minds of the laity with a gas factory and gastritis. We are able to control these symptoms *without* teaching the patients to avoid swallowing air, which is seldom the true cause, because the usual causes are fear, worry and other psychic external causes or some local irritation of the gastrointestinal paths, controllable by neutralization, by protection, by rest, by psychic antagonists, courage, hope, etc., by sedatives acting centrally or locally, such as antacids, bromides, bismuth, cocain, salicylates, etc., etc.

Those who have watched the slow evolution of gases by fermentation will be skeptical as to the cause of the constant voluminous eructation of gas complained of by some and will seek for some other explanation, especially if it occurs in the morning, on waking, when the stomach should be empty. I doubt if I have had one true case of eructation due only to fermentation of the stomach contents in my practice. About eighteen years ago a young married woman called who was explosively belching gas almost constantly and had been doing so for about a year, in spite of her physician giving her a daily morning lavage of her stomach.

"Was there ever a time in that year when you did not belch gas," I asked her, and her answer settled the diagnosis, by exclusion, without aid of the microscope.

"Yes," she said; "I took a trip to Toronto and all the time I was away, I was surprised, I did not belch gas."

Why the germs of fermentation stayed out on a strike and refused to furnish gas for Canada, yet started to belch promptly



in Cleveland when the mistress went back to her household worries, I have never found out, but I prescribed a liberal diet, some physical rest with abundance of diversion. The next day she attended a jolly party and indulged in food with the rest, without any belching of gas, and was soon discharged, cured of what I diagnosed as *Eructatio Nervosa*.

### Odors and Malodors from the Gastrointestinal Tract

The almost instant effect through the nervous system of emotions of fear, anxiety, etc., I have personally experienced; the mouth, just before, being noticeably sweet, suddenly becomes pasty and bitterish and the breath becomes foul. That type known as fecal breath is often recognized, denoting stool delayed, so as to cause absorption of the peculiar foul odor through the bowel wall by osmosis—and its final exhalation through the lung tissue. The foul breath originating from the mouth will yield to solution of permanganate—or peroxide—but the fecal breath from the bowels often requires repeated catharsis and much water drinking. Odors of food from a previous meal or previous day have been accepted both by the laity and by the profession as proof that such odorous food is still laying undigested in the stomach, and the patient says, "I rift up onion, garlic, celery, banana and other strong-smelling food several days after I eat them." Thereupon the physician advises them to avoid eating such articles. The mistake is in blaming the strong-smelling food which was mixed with all the other non-odorous foods and eaten and passed out promptly, whereas the odorous vapor more or less diluted with air as time goes on, remains in the stomach to be recognized by a delicate nose, as the vapor is belched up. I propose to illustrate this with a few bottles that still smell of *asafoetida*, peppermint, chloroform. The explanation is that the air in these bottles, as it would be in the stomach, is saturated more or less with the volatile vapor of these substances and, although the inside surface of the bottles is rinsed out with a little water repeatedly, the smell, though weaker, is distinct, because the odorous vapor in such bottles as well as in the stomach remains behind; but if the bottles are allowed to overflow with water ALL the odor is driven out with ALL of the air in one or two full rinsings. I educate patients to eat regardless of rifting of gas.

Who has not heard that eggs are constipating, cause biliousness and make you yellow?

The question is often asked, will not eggs make you bilious? Others say, "I can't eat eggs; they constipate me."

Since about 97 per cent of the entire egg is absorbed as food, leaving 3 per cent residue to add to the volume of the fecal matter, there is no appreciable volume contributed by the egg, but it does not tend to constipate at all, if the proper stool-forming and stool-propelling agencies are used—such as sugars, cellulose from vegetables, also sufficient water at proper intervals with sufficient rest and exercise to maintain peristalsis.

Recently I treated a woman of 65 years of age, who was at first decidedly jaundiced. She was vomiting every night—no palpable mass—no localized pain. I advised six raw eggs daily, with nothing but water. Of course a protest was made against the eggs—would they not increase the jaundice? I stood my ground, and she not alone failed to vomit, but jaundice promptly cleared up. She had a gastroduodinitis and there is perhaps no better demulcent than raw eggs upon the catarrhally inflamed mucosa. Patient completely recovered, and two months later came to my office suspecting an abdominal tumor, which was nothing but a well-padded layer of adipose tissue. Another case of jaundice with vomiting, pain and extreme emaciation, the result of worry, and lack of appetite and ending in ptosis of right kidney and liver, previously diagnosed as a neoplasm, for whom I prescribed eight eggs daily and bandaged up the replaced organs, also promptly recovered.

*Sweets.* I am often told by patients that they cannot eat sweets. One emaciated patient, whose urine was sugar free, was so positive of evil effect that for years she wouldn't put sugar into any of her foods. She would not take a soda mint because that also was a sweetening agent, and would sweeten her stomach. No explanation of mine would answer—all of her doctors had told her to avoid sweets. I finally made her add one heaping tablespoonful of sugar after each meal to an acid mixture I gave her and she has taken it for two years without harm.

Referring to constipation—the beneficial results of honey manna and sweets as laxatives depend largely on the sugar, the soluble carbohydrate being rapidly absorbed and acting on the bowel musculature as we know it does on the uterus, heart, etc., promptly and efficiently, as a muscle tonic. In atonic conditions



of the bowel muscles sugar is perhaps one of the most valuable aids—therefore the real value of malt soups, malted milk, etc., lies in correcting a condition of constipation through bowel muscle stimulation. When we think of the extremely large intake in the shape of cereals and starch foods—for bread, pastries and potatoes are mere varieties of carbohydrate ingestion, all glycogen producers—we can appreciate the normal tolerance for sweets, for these are all converted into glycogen. We need have no fear of permitting sweets. This does not apply to the varieties of mixtures of sweets with injurious combinations.

Acid fruit at the beginning or toward the end of meals? In most hotels fruit is served first, not for health, but to prevent impatience while the cooked foods ordered are made ready to serve. The starch foods require Ptyalin for their digestion which is furnished by the saliva, as mastication proceeds, but acid if present in abundance prevents Ptyalin action—therefore no considerable acid, especially acid fruits should be eaten or drunk till most of the starch food has been eaten and is well on its way to digestion, when acids will do no harm but may assist in the digestion of the proteid foods. There is no normal need for acid in the stomach till toward the end of the meal—and if present before or soon after starting to eat should be neutralized to permit the normal digestion of starches to occur first.

Ice cream merely requires to be eaten slowly, so that it should lose its excessive coldness before it is even swallowed; it then is an ideal food for the feverish, the famished and for children. Pie as a food contains only butter or other fats, flour, sugar and its fillings of fruit, etc. None of these constituents are ordinarily considered as harmful for the well. Whoever bolts down his food—be it pie, dumplings, cheese, meats, etc., is liable to have trouble, because it was not properly masticated; yet if the teeth have properly ground up the crust and solid parts of the pie into a creamy emulsion, it is rapidly digestible and seems to give rise to no trouble with my dyspeptic and other patients. The same remarks apply to plain cake and cookies.

#### **Ano-rectal Irritation**

While the eyes, nose and mouth are normally and abnormally powerful factors in influencing the digestive functions through the entire alimentary canal—causing attacks of vomiting,

nausea, indigestion, headaches, etc., yet the ano-rectal segment of the digestive canal, through its efferent and afferent sensory and motor nerve distribution, is perhaps even more potent in referring its painful sensations and motor disturbances to remote parts of the nerve paths under its control, passing upwardly through the digestive canal causing painful sensations in the sigmoid, splenic flexure, transverse colon, hepatic flexure, appendix region and even affecting the oesophagus, the nasopharynx, the respiratory tract, and the eyes; but not alone are its nerves distributed through the entire gastro-intestinal tract but the pudic nerve influences the genitalia and sends branches down the legs and thus mistakes in diagnosis are easily made; and still there is quite a margin for making a differential diagnosis by careful analysis of the correspondence of the period of daily function with the period of sensory or motor disturbance. As a warning to the surgeon, young and old alike, I have seen quite a number of cases of painful and distressing symptoms unrelieved by operation for appendicitis which proved to be due to ano-rectal fissure and permanently relieved by treating the fissure. I have in mind an experienced gynecologist who operated about one year ago upon a young lady for appendicitis, without benefit and advised her sister and her father also to be operated for appendicitis. All three I found had very painful fissures in the rectum, which he failed to examine, which were cured in about two weeks by appropriate treatment.

In most of these cases, although there may be tenderness and pain on pressure over the entire colon—especially at the appendix, yet by comparison the pain is greater or more sensitive *the nearer you approach the rectum* and is greatest on palpating the rectal mucosa. Nearly all of the symptoms of chronic appendicitis are here reproduced—commonest of all, constipation or diarrhoea, nausea, vomiting, hypo or hyperacidity, inhibition of digestion, pyloric, cardiac and oesophageal spasm, beside others such as pupillary irregularity, conjunctival and ocular congestions, nasopharyngeal irritations, asthmatic and laryngeal irritations, dysmenorrhœa, incontinence of urine, and a variety of others secondary to a rectal lesion and demonstrable by careful palpation and inspection and completely relieved by proper treatment of the lesion. A common symptom of a rectal lesion is frequent often painful micturition, while the amount of urine voided is small, whereas response to normal vesical demands is



usually copious. Bowel movements and enemas are attended with pain in these rectal lesions and less apt to be so if of appendicial origin. The function time of an organ and the pain caused by that function are coincident—whereas the pain referred to any organ, if not due to a lesion located there, is irregular and perhaps synchronous with the time of irritation of the rectal lesion, by gas or fecal matter, etc., if rectal.

**Dull, Dead and Drowsy Feeling in the Afternoon Means  
Insufficient Breakfast**

The efficient human automobile must put enough gasoline or other energy supply in his tank in the morning to keep brain and body machinery at high speed all day. Our evening meal is not elaborated and stored away till near bedtime and unless specially required during the night is used up by the body in the early morning hours, by which time reinforcements should arrive from the breakfast *if that was ample*. Many business men, teachers, clerks and stenographers, working men and girls complain that toward noon and most of the afternoon they feel dull, dead and drowsy, unable to dictate or to take dictation, etc., although they sleep well and sufficiently. On inquiry, they ate but a few bites—perhaps with a cup of coffee—for breakfast and then cut and ran to school, to work or to other duties. If before starting you put but a pint of gasoline instead of five gallons into your auto tank it too will soon be dull, dead and drowsy. A hearty, correct breakfast daily soon corrects this and they come back smiling that they now have the working energy of a steam engine all day long. As a working principle if carried out imperatively for homes and for factories, for the children at school as well as for the mothers—for all who use their body or brain—it will increase the efficiency of the home, the school, the workshop, the store, the office, and when preparedness and efficiency is most needed in the Army—let the slogan be—*A first-class breakfast*.

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

**Blood Pressure During Pregnancy.**—The elevated blood pressure accompanying other signs and symptoms of eclampsia and nephritic toxæmia of pregnancy has long been noted, but more recently a considerable amount of attention has been given to the study of blood pressure during normal pregnancy, and these studies have produced some very interesting and valuable results, particularly for those cases which subsequently develop these obstetric complications.

Two recent articles, the first by Franklin S. Newell (*Jour. Am. Med. Ass.*, 1915, LXIV, 393), and more recently the work of Frederick C. Irving (*Jour. Am. Med. Ass.*, 1916, LXVI, 935), are very well worth detailed consideration. Newell's conclusions are based on the study of 450 cases watched in their homes by the visiting nurses, who also advised the patients in the hygiene of pregnancy. Irving studied 5000 consecutive cases in the pregnancy clinic of the Boston Lying-in-Hospital.

The normal blood pressure during pregnancy varies from 100 to 130 and averages about 120. It is known that, particularly in the latter months, there may be a slight rise in blood pressure for the individual, which does not exceed 10 mm. Hg. Newell found no variation from the average either with nationality or age. Women in the latter part of the child-bearing period had no higher or lower pressures than younger women, nor did repeated pregnancies in the absence of complications affect the blood pressure. Irving, on the contrary, with his much larger series of cases, found elevated pressures more common in elderly gravidas, although it was less often a symptom of impending trouble than when found in younger women, especially those under twenty. The British North American women and negroes were most often found to have elevated pressures, and also the frequency of elevated pressures seem to increase with the parity which is probably accounted for by the increase in age. Irving found four-fifths of all patients were never below 100 or above 130. Not infrequently will a single reading be found to be below normal, but a consistently low pressure is rare. A constant pressure of less than 90 was found by Irving to occur only once in



1,000 cases, and between 90 and 100 once in 100 cases. A consistently low pressure seems to be an individual peculiarity and does not influence labour.

Both authors agree that a blood pressure over 130 should be under constant observation, and this is particularly true when the pressure is gradually rising, a rising pressure being more often indicative of trouble than a high pressure remaining constant. Irving found toxæmia occurred in 1.4 per cent of his series and eclampsia developed once in every 500 cases. When the blood pressure was over 130 there was a pronounced increase in the occurrence of toxæmia. One patient in every thirty-two with a pressure of 130-140 had toxæmia, one patient in eleven with a pressure 140-150, one patient out of three when the pressure was 150-160, half the women with pressures 160-180, and all patients with pressures over 180 had toxæmia.

A faint trace of albumin is frequently found in the urine of pregnant women and is usually due to contamination with leucorrhœal discharge. Cases showing any albumin should be directed to secure a specimen free from contamination, and, if albumin persists, a catheterized specimen should be obtained. The presence of casts in urine showing albumin renders unimportant the question of leucorrhœal contamination. Albuminuria is a more common finding than is an elevated blood pressure, though the latter is of considerably more prognostic importance. An elevation in blood pressure far more often precedes than follows albuminuria as a sign of impending trouble, and the degree of elevation is of more importance than the percentage of albumin. All cases developing toxæmia or eclampsia had both elevated blood pressures and albuminuria, which emphasizes the great importance of frequently observing pregnant women for these symptoms.

Women should be under the care of an obstetrician throughout their entire pregnancy and report to him at once the occurrence of any such symptoms as headache, oedema, persistent vomiting, disturbance of vision, epigastric pain, fainting, chills, pyuria, bleeding, etc. The blood pressure should be taken and the urine examined at not more than monthly intervals for the first six months of pregnancy, at two-week intervals during the seventh and eighth months, and every week from that time until delivered. Should the blood pressure show a gradual or sudden

increase or should albuminuria of renal origin occur, the patient should be put to bed, given a liquid or soft diet, water urged, bowels well emptied by a daily saline cathartic, and if in spite of the treatment the blood pressure continues to rise or the albumin increase in amount, the uterus should be emptied by the most conservative means.

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**Analgesia in Obstetrics.**—A. J. Skeel, Cleveland (*Journal A. M. A.*, March 11, 1916), reports the experience in St. Luke's Hospital, Cleveland, with the use of gas to relieve pain in labor. It was first employed by them in November, 1914. Previous to that date it had been employed as an anesthetic of choice and since then nitrous oxid gas has been used in seventy-two cases, in some of these alone, in many with morphin, in quite a few with ether, and in a few scopolamin. He sets up the advantages and disadvantages observed in the hospital from morphin, gas, and ether, and describes their methods. In labors not distinctly abnormal, morphin is used in the first stage. As long as the child is in the uterus the effect of a reasonable amount of morphin is negligible so far as it is concerned, because its oxygen supply is then dependent on placental fetal circulation secured by its heart. The indications for morphin during the first stage are a rigid hypersensitive os, evidence of considerable pain and probability of its continuance for several hours, the occurrence of nagging but ineffectual pains irritating and exhausting the patient. With these indications many patients, especially primiparas, get a single hypodermic of one-sixth grain of morphin. If it is desired to stop nagging pains and produce sleep, one-quarter grain is given. In true primary uterine inertia it is withheld. At the beginning of the second stage or if the patient suffers severely shortly before complete dilation, the use of gas is begun, and as the head approaches the pelvic floor and presses on the perineum the nitrous oxid is gradually increased in volume and the intervals between administration are shortened. As the most painful stage of labor arrives, it is given more continuously, but is discontinued as soon as the head is born, and the patient is sharply revived by a few inhalations of pure oxygen. If laceration seems inevitable the utmost possible relaxation is secured by switching to ether and pushing it to complete unconsciousness when the head crowns the perineum. All this requires perfect team work between the obstetrician and the anesthetist. Analgesia permits careful repair of injuries except those of the cervix; in that is to be repaired it is best to have the patient under anesthesia. No anesthetic is used in making a test of labor preliminary to cesarean section. If satisfied that natural forces can engage the head and bring it into the pelvic cavity, gas is freely used from the beginning of the second stage, reinforcing the uterine contractions by pituitary extract hypodermically. When forceps are to be used, gas analgesia is increased to complete anesthesia and ether vapor added at the perineal stage to secure complete relaxation. For all minor obstetric procedures gas is given the preference. Skeel protests against the statement freely made that any one can use gas in labor cases with perfect safety. In the hands of an expert it is safe, but is the most dangerous anesthetic if given by a novice. This is, of course, too strong a statement to make concerning analgesia, but even here there is need of caution. The temptation to follow a gas analgesia labor with the gas anesthesia for repair is so obvious that he urges all expecting to adopt the method of sufficiently acquaint themselves with the agents.

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## NEUROLOGICAL REVIEWS

By T. S. KEYSER, M. D., Cleveland

*Observations in the Diagnosis and Treatment of Brain Injuries in Adults. Wm. Sharpe. Jour. Am. Med. Assoc., May 13, 1916.*

The attitude of hopelessness which physicians usually have towards patients having fractures of the skull, especially of the base, has resulted in the almost complete neglect, in most hospitals, of any attempt at radical treatment. The author believes that surgical interference is indicated in a large percentage of such cases and cites a series of 79 cases in which operation was performed.

Fractures of the skull may be latent, e. g., cannot be demonstrated clinically, and may or may not be demonstrated by the Röntgen rays. In such cases operation is not indicated. In small fractures of the base, in which there is an escape of blood and cerebrospinal fluid into the ear, orbit, nose, mouth, or the tissues of the scalp or mastoid areas, but without evidence of brain injury, operation should not be performed. It is quite patent that all depressed fractures should be elevated or bone removed for fear of the later development of local pressure or irritative symptoms. Also where there is evidence of cortical hemorrhage, producing localizing symptoms, immediate operation should be performed.

The fractures of the base are the ones in which there is a diversity of opinion regarding the indication for operation, as it is impossible to operate on the fracture itself or even to remove the clots of blood so often present in such cases. However, only recently neurological surgeons have learned that the fracture itself is of little consequence. The important features are the complications—infection, hemorrhage, and œdema—which so often arise. Very frequently there are no signs by which injury of the brain substance can be localized.

According to the author, the indication for operation is the evidence of increase in the intracranial pressure. The causes of the rise of the intracranial pressure are hemorrhage and œdema. The operation consists simply of a subtemporal decompression in order to relieve the pressure and afford a temporary drainage for the excess cerebrospinal fluid and blood.

Operation should never be performed during the period of shock—unconsciousness, rapid pulse-rate, absent reflexes—which usually follow immediately after an injury. If the patient survives the period of shock, the signs of increased intracranial pressure gradually appear. These signs consist principally of a decrease in pulse-rate and an increase in blood-pressure. The discs may show a blurring of the nasal side.

Many patients who have apparently recovered from the effects of a fracture of the skull, later complain that they are not as well as before the injury. The more common complaints are headache especially on exertion, fatigue, subjective vertigo, emotionalism, irritability, listlessness, etc. The author thinks that these symptoms are often due to a permanent increase in intracranial pressure and that decompression is often advisable. Of 28 such patients in which operation was performed, 11 are well, 9 improved, and 8 unimproved. In these patients the injury occurred from 6 months to 16 years previously.

One point to be emphasized, pertaining to diagnosis of fractures of the skull, is the fact that the X-ray often does not reveal a fracture when no displacement of bone has occurred.

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*Serum Therapy in Poliomyelitis. Arnold Netter. Archives de Med. des Enfants. January, 1916.*

In 1910 Doctor Netter conceived the idea of treating cases of poliomyelitis, during the acute stage, with serum obtained from patients previously affected by the disease. The basis of this article is the report of the results obtained in thirty-two cases of acute poliomyelitis.

Leviditi and Sandsteiner, Leiner and Weisner, Römer, and Flexner have proven that the blood serum of monkeys which have not succumbed to inoculation with the virus, is capable of neutralizing the virus. This sérum, according to Flexner and Lewis, will prevent or delay the evolution of poliomyelitis in a monkey, inoculated with the virus, on condition that the injections are made repeatedly into the subarachnoid canal from eighteen to twenty-four hours after the introduction of the virus. If the injections, however, are made later, no influence whatever is made on the progress of the disease. The uselessness of serum therapy, in monkeys, so short a time after inoculation and five to six days before any clinical symptoms manifest themselves, would seem to



prove that such treatment would be of no value in man. However, the disease fortunately is much milder in man than in monkeys, the latter showing a mortality of about 73 per cent (Flexner), the former of 5 to 17 per cent in various epidemics. The interval between the onset of symptoms and paralysis is two to four days in man, while in monkeys it is only six to eight hours. For these reasons and others mentioned in the article, the author believes the serum treatment might be of benefit in patients affected with poliomyelitis.

The serum for injection is obtained from a patient who has survived an attack of poliomyelitis from five months to seven years previously. Five to thirteen c.c. of serum are injected intraspinally after withdrawing a somewhat larger amount of spinal fluid. The injections are repeated daily.

The results obtained in thirty-two cases are as follows: Six showed complete cure, three almost complete cure, seven very marked improvement, five distinct improvement (such, however, as occurs in some untreated cases), three no modification of symptoms, and eight deaths, seven of which showed bulbar extension before the treatment was instituted.

The important feature is to begin the treatment as early as possible, before the paralytic symptoms have become marked. After the paralysis has been present for several days, no benefit is obtained.

The author is quite enthusiastic over the results obtained by his serum treatment. Many facts, not recorded in this review, seem to warrant a trial of the therapy, especially as we have no other means at present of combating the ravages of this disease.

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### *Vagotonia.*

In recent years the literature on nervous diseases has been flooded with articles elaborating the Freudian psychology. In regard to a great part of the later teachings of the psychoanalysts one feels that Dana's designation of "poetic fancy" aptly applies; or one might describe the mental process by the term "autistic thinking," as used by Bleuler.

That all the neuroses are not due to "psychic trauma" or "repressed wishes" is clearly shown by the gratifying advances that have been made in our knowledge of the vegetative nervous system. The Nervous and Mental Disease Monograph Series

No. 20 consists of a translation by Kraus and Jelliffe of a recent publication on vagotonia by Eppinger and Hess.

Vagotonia may be defined as a pathological hyper-irritability of the autonomic nervous system or the "extended vagus." Especially through the investigation of the action of certain drugs, the original so-called sympathetic system has been divided into two parts, the autonomic and sympathetic, which are usually antagonistic in their action. It was then observed that marked variations occurred in the response of individuals to the drugs acting on the vegetative nervous system. For example, in some individuals the ordinary dose of atropin gives practically no response, while in others a small dose produces tachycardia, dry mouth, fever, mydriasis, etc. The diagnosis of vagotonia can always be confirmed clinically by a study of the action of the various drugs, which are either stimulating or paralytic in their action on either the sympathetic or autonomic system.

The symptoms produced by vagotonia are extremely numerous and diversified, so only the more important ones can be mentioned in this review. In the eye, it produces accommodation spasm, widening of the palpebral fissure, mild convergence spasm, and epiphora. Moebuis' sign is never present in vagotonics. Salivation is not uncommon. Increased sweating, which may be limited to the hands and feet, cold hands and feet which often become cyanotic in cold weather and can be readily blanched by pressure, dermatographia of the vasodilator type, and probably some forms of pigmentation are noted in increased vagus irritability. These phenomena are due to the autonomic innervation of the vasodilators or inhibition of the vaso-constrictors. Many of the symptoms designated by the term "cardiac neurosis"—bradycardia, irregularities, and many praecordial pains (pseudo-angina)—may be mentioned. Aschner's phenomenon, which consists of a bradycardia dependent on pressure upon the eyeball, occurs in vagotonia and is of diagnostic value. The most striking example of periodic vagus irritation is seen in asthma. The association of eosinophilia with asthma as well as in other vagotonic conditions seems to show that the production of eosinophiles is in part under the control of the autonomic innervation. Anaphylaxis seems to occur especially in vagotonic individuals.

The most frequent symptoms of vagotonic origin are those which have always been designated as gastric neurosis—eructa-



tion, hyperacidity (heart burn), sensations of fulness, pressure, acute distention, pylorospasm, vomiting, "globus hystericus," etc. It is interesting to note that the gag reflex is frequently absent in these patients, a sign which has always been considered as a stigma of hysteria. The commoner intestinal symptoms are spastic constipation, periodic diarrhoea, mucous colitis, and rectal tenesmus. Many of the "neurotic" genital symptoms, e. g., priapism, ejaculation praecox, prostatorrhea, functional dysurea, etc., are due to an abnormal state of irritability of the sacral autonomic system.

From a clinical study the authors believe that they have been able to separate, from the mass of nervous diseases which have been indiscriminately designated by such vague terms as neuresthenia, hysteria, nervousness, etc., a symptom complex which they designate "vagotonia." Apparently many individuals inherit a vagotonic disposition, and may to this extent be considered to have an inferior constitutional make-up. The real etiology of vagotonia must be sought in some disturbance of the internal secretions. Unfortunately, the internal secretion which stimulates the autonomic nervous system has not been discovered although such must exist corresponding to the action of adrenalin on the sympathetic nervous system. An insufficiency of the chromaffin system has been shown to exist in certain types of vagotonics as well as a tendency to status thymicus and the lymphatic constitution.

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**Special Tour to Yellowstone Park.**—A large number of Doctors from Cleveland and surrounding towns have been making inquiries relative to Story's Special Yellowstone Park Tour, which leaves here June 25th for an 18-day trip through Colorado, Utah and Yellowstone Park.

The tour will be personally conducted by John M. Storey, who last year had a party of Doctors and their wives to the convention at San Francisco, and as Mr. Storey is very well acquainted with all this western country, a very good time is assured.

Stopovers with sightseeing will be made at Chicago, Denver, Colorado Springs, Glenwood Springs, Salt Lake City and a complete tour of Yellowstone National Park, which takes five days.

The party will leave here in special Pullmans over the New York Central Lines and will be met at Chicago by about 20 more tourists from different sections of Indiana and Illinois and will then proceed to Denver over the Chicago, Milwaukee & St. Paul Ry. and Union Pacific R. R.; thence over the Denver & Rio Grande R. R., passing through the world's famous Royal Gorge in the daylight so as to give all who take this trip an opportunity to see this wonderful chasm which rises a mile high and at its narrowest point is only 80 feet from top to top.

All who anticipate making this tour should get in touch with John M. Storey, 601 Caxton building, as soon as possible, so that reservations can be had, as the party is limited.

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# The Cleveland Medical Journal

CONTINUING THE CLEVELAND MEDICAL GAZETTE and  
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

THE OFFICIAL ORGAN OF THE ACADEMY OF MEDICINE OF CLEVELAND

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Reprints of articles will be furnished authors at a reasonable price.

All remittances to the Journal should be made payable to The Cleveland Medical Journal.

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Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

Original articles are accepted for publication by this Journal only with the distinct understanding that they are contributed solely to this Journal and will not be published elsewhere as original.

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## EDITORIAL

### PUBLIC HEALTH NEWS

#### Infant Mortality

The summer season for saving babies is at hand.

Already the Child Hygiene Bureau has started an "intensive" campaign which it is hoped will cut down materially Cleveland's high infant mortality rate.



Miss Harriet Leete of the Babies' Dispensary and Hospital says:

"Cleveland threw away a million dollars in babies' lives last year! With 1,916 babies dying out of 16,144 born, Cleveland's death rate was 110 per 1,000. At least half of these deaths could have been prevented by proper food and care. At the low valuation of \$1,000 per life, in future worth to the community, these baby deaths cost Cleveland \$1,000,000."

Education of the mothers has helped to cut the infant death rate in other cities and now through its fifteen prophylactic dispensaries the Child Hygiene Bureau of the Health Division hopes to accomplish as much in Cleveland.

Believing that the longest way round is the shortest in the end they are, in addition to other activities, trying to reach the mothers through the little daughters.

To this end a Junior Mothers' Corps has been formed as part of the Child Hygiene Bureau. The Corps is one unit of the new Cleveland Health Army. Its members are little school-girls. They receive several lessons a week in baby care. In turn they help their mothers take care of the babies at home, and it is surprising the interest they show in seeing that a baby brother, perhaps, is fed and cared for in the most hygienic way. Already there are 200 enthusiastic Junior Mothers enrolled.

In connection with the work of the Child Hygiene Bureau, several complaints have been received by Health Commissioner R. H. Bishop, Jr, from physicians who contend that the bureau's nurses interfere with their cases.

These men sadly misunderstand the real purpose of the Child Hygiene Bureau. Through its fifteen prophylactic dispensaries the bureau nurses strive to get in touch only with cases where a physician's services were dispensed with following confinement.

These cases were taken in hand by nurses of the prophylactic dispensaries who teach the mothers how to keep their babies well. If an infant becomes sick and its parents can afford a physician then the case is referred back to the physician who attended the mother at the time of her confinement. When too poor to afford a physician the mother and her sick baby are sent for treatment to the central dispensary operated in connection with the Babies' Dispensary and Hospital.

Instead of encroaching upon the legitimate field of the family physician, the nurses of the Child Hygiene Bureau's prophylactic dispensaries carry on a phase of baby welfare work which otherwise would be almost totally neglected.

The prophylactic dispensaries operated free of charge for poor mothers are located as follows :

6943 St. Clair Avenue	2319 West 10th Street
9206 Woodland Avenue	6231 Broadway
8512 Broadway	1416 East 31st Street
3000 Bridge Avenue	7712 Holton Avenue
4954 Broadway	522 Central Avenue
5316 Clark Avenue	3715 Orange Avenue
5418 Detroit Avenue	2401 Woodland Avenue

#### Alta House

#### Health Agitators

Publicity will save more lives than any other single agency!

That is the declaration of Edward A. Moree in the *American Journal of Public Health*... Mr. Moree is in charge of the Health Education work of the New York State Health Department.

"Against the advice of numerous friends, whose judgment I value, I have adopted, as descriptive of my own work, the title 'agitator'," says Mr. Moree.

An agitator, contends Mr. Moree, is simply one who stirs things up and gets people to think and talk about them.

He urges everyone engaged in any way in public health service to be an agitator. Manufacturing public sentiment, he contends, is impossible. But it can be concentrated or focused or re-focused. That is what he urges public health officers to do by means of publicity.

#### Dramatizing Health

Health is to be dramatized by the Michigan State Board of Health in a parade to be held in Detroit on June 16. The parade will consist of a marching exhibit to illustrate the perils of unsanitary conditions, improper housing, bad air, filth, congestion, flies, rats, vermin, germs and all the evils that public health adherents are fighting against.



### Babies Thrive on War Rations

The shortage of food caused by the war in Germany, particularly the shortage of fresh milk, has had a beneficial rather than a disastrous effect upon young babies, declares one Berlin physician, Dr. Freer. He says in the *Medizinische Klinik* (Berlin), February 20, 1916, commenting on this fact, that 600 grams of milk is all that the one-year-old bottle baby of normal weight ought to have. He begins adding sugar to the baby's milk at one month, gradually increasing the amount up to an ounce a day at the seventh month, at which time the baby is receiving only 350 to 500 grams of milk in twenty-four hours. He also gives the baby starchy foods from the end of the first month, from a tablespoonful to two tablespoonfuls of rice or oatmeal gruels being allowed per day at the age of two or three months. He gives beef or mutton broth, from one to five tablespoonfuls, beginning at the sixth month. Also fresh vegetables, well cooked and very finely mashed, a few tablespoonfuls every day after the sixth month.

R. H. BISHOP, Jr.,  
Commissioner of Public Health.

J. D. HALLIDAY,  
Chief of Bureau of Health Education.

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**Warning.**—We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider and he usually gives a receipt bearing the heading of some Society or Association, such as United Students' Aid Society, the Alumni Educational League, the American Association for Education, etc.

The description given of this swindler is: Young man of foreign type, rather slender, with very dark hair combed straight back and shows his teeth plainly when talking.

The whole scheme is a fraud. The Societies mentioned do not exist. The idea is to collect by offering special discounts and prices on medical books and journals and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent and physicians, generally, should be on the lookout for him.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Tetanus:** In the *American Journal of the Medical Sciences* for May, H. E. Robertson thus summarizes an article on the prophylactic use of tetanus antitoxin. (1) The most ideal and perfect protection against tetanus is the protection of active immunity produced before the infection has occurred. This admittedly is not yet practical, but deserves further consideration and research. (2) In the large majority of instances, the subcutaneous injection of twenty units immediately after the injury will prevent with certainty the occurrence of tetanus. The delay of a few hours in making the injection may mean the loss of life. (3) Local applications of fluid antitoxin on the wound are efficacious, but unnecessarily wasteful and not always practical. (4) In cases where injections cannot readily be made, especially in time of war, the immediate application to the wound of dried antitoxin tampons moistened by clean fluid may be used as a temporary substitute until fluid antitoxin may be injected. (5) Powdered antitoxin on the wound is not as a rule dependable. Its one useful field is perhaps the prevention of tetanus neonatorum. (6) Certain failures are to be expected in the prophylactic treatment of tetanus as carried out at the present time. Occasional cases of tetanus will develop in spite of the most careful precautions. (7) The protection afforded by tetanus antitoxin lasts from two to three weeks. Hence in cases of protracted suppuration, or where for other reasons secondary surgical interference is contemplated, either second injections of antitoxin should be made or dried antitoxin tampons freshly moistened should be placed on the wound. (8) Certain complications, most frequently urticarial like eruptions and very rarely more serious results may follow injections of antitoxin. He emphasizes the fact that we are not dealing with an ideal remedy.

**Angina Pectoris:** Robert H. Babcock, in the *New York Medical Journal* for May 6th, treats of the therapeutics of angina pectoris. Since the term angina pectoris designates a symptom and not a uniform pathologic entity, rational treatment should include both temporary relief from suffering, and, so far as possible, correction or improvement of the underlying condition. Ever since Cauder Brunton called attention to the remarkable effect of the nitrites in allaying the distress of this formidable malady, English and American physicians have prescribed nitroglycerine or amyl nitrite wellnigh universally, and with good reason, since in practically all cases it promptly affords relief. On the other hand, it is not good practice to prescribe a nitrite every two or three hours with a view to lessen or prevent the frequency and severity of attacks. He instances a case where a man of sixty-seven years had been treated for frequently recurring and intense attacks of grave angina. Nitroglycerin and amyl nitrite usually afforded relief, but he was horrified to learn that the patient was taking two or three fiftieths of a grain of nitroglycerin three times daily, besides inhaling the amyl nitrite, whenever he experienced even a premonition of pain. His heart showed signs of dilatation, and his blood pressure registered 120 mm. systolic and 100 mm. diastolic, giving a pulse pressure of only 20 mm., or less than one-fifth of the minimum pressure. The nitroglycerin was stopped and he was put on strophanthin 0.5 mg. four times daily, while instead of inhaling nitrite of amyl so frequently, he was given morphine and atropine hypodermically when pain was really intense, or when ammonia and whiskey failed to relieve. The nitrites cause vascular relaxation with secondary acceleration and force of heart action; for this reason they are of benefit in cases of coronary angina, but it should be remembered that their effect is not confined to the nutrient arteries of the heart, but they dilate the vessels in general, including those within the abdomen.



Consequently, if a nitrite preparation is taken habitually and frequently, it lowers vascular tone and really augments the heart's work. As is well known, all cases of grave angina are not due to coronary sclerosis; nor are they associated with arterial hypertension. Every consideration makes it evident, he believes, that the use of the nitrites should be limited to the relief of the anginal attack itself, and even then some caution should be observed. Should the attack prove very intractable, or should a status anginosus occur, then morphine and atropine hypodermically should be employed, freely if necessary. Should this not relieve, other stimulants, as camphor, ammonia, caffeine, and even digitalis should be resorted to. His paper is intended as a protest against the indiscriminate use of vasodilators, and in the management of these cases between attacks the aim should be to strengthen the myocardium, by drugs, medical gymnastics and hydrotherapy.

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**Pyorrhea:** Barton Lisle Wright, in the *Medical Record* for May 6th, writes concerning the treatment of pyorrhea alveolaris and its secondary systemic infections by deep muscular injections of mercury. His treatment is based on the theory that for every vegetable parasite mercury is the chemical affinity, and when properly injected into the infected host will cure the specific disease. The cure of this disease, with its multiplicity of possible etiological organisms, with the systemic administration of mercuric succinimide is an argument that he believes must prove convincing when his theory in relation to the treatment of many systemic diseases and local foci of infection is considered. He states that at the present time the consensus of opinion is that the amebicide emetine is of more or less benefit in pyorrhea, but not a cure. As to treatment, two courses must be pursued at the same time: (1) the infecting organism or organisms must be attacked by the use of some parasitotropic agent, and (2) during the administration of this agent, surgical interference must be resorted to locally, all calcareous deposits and tartar wherever found being removed, and the toilet of the oral cavity being made as perfect as possible. If it is found that the *Endameba buccalis* is the primary causative factor in pyorrhea, his results and those of Price and Riethmüller would show conclusively that mercury is also parasitotropic for this particular protozoan at least. In this disease, in the male patient, a deep muscular injection of mercuric succinimide gr. 1 (65 mgm.) should be given every seventh day, until the discharge of pus has entirely disappeared. In female patients the dose should be from gr. 1/5 (13 mgm.) to gr. 2/5 (26 mgm.) less than administered to males. Any marked degree of mercurialism should be met with smaller doses at succeeding injections, or if the symptoms are severe, the mercury is discontinued until they have disappeared. As to technique, an all glass syringe holding forty minims is used, the solution used containing one-fifth of a grain of mercuric succinimide in four minims of hot sterile distilled water. The site of injection is the buttock, using alternate sides for injection, and the greatest number of injections required to cure the primary infection in any one case was seven; the smallest number, one. Average, 2.9. And the longest time required to effect a cure was forty-one days; the shortest, four days. Average, seventeen days. He concludes from his results in this disease and other infections, corroborated by Souligoux, Girn and Krohl in septic infections, and by Baccelli and his followers in infectious arthritis, that in mercury properly administered a cure has been found for the various infections produced by the vegetable parasites, among which pyorrhea as a primary focus of infection is of the first importance.

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**Pertussis:** In the April number of *American Medicine*, Ward Bryant Hoag presents a series of conclusions and considerations concerning pertussis, with special emphasis on vaccine therapy. It would now seem that the results of vaccine therapy would warrant placing per-

tussis in the class of diseases where a specific vaccine represents our chief and most efficient therapeutic agent. Also that there should be no longer any question of doubt as to the etiological role of the Bordet-gengon bacillus in pertussis. Luttinger advised beginning in doses of one-fourth billion, and doubling each successive dose every other day till two billion organisms were given with each injection, the two-billion dose being continued every other day, or three injections a week, till treatment was suspended. In the reported cases by Luttinger the total amount of vaccine, however, seldom exceeded three and a half billion, and averaged about half that amount. In Hoag's use of the vaccine, which has been quite extensive, these doses have been used as regularly as attendance would admit. These doses and the intervals of injections make the earlier doses ludicrous and at the same time stamp the vaccine in Hoag's opinion as a distinct specific, one that lessens the severity of the disease in every way and distinctly shortens its aggressiveness. Any remedy which will shorten the paroxysmal stage of pertussis one week or longer even should be hailed as a boon, for it is during the latter weeks, when the patient is increasingly weakened by stress, deficient nutrition and want of sleep, that the greatest possibilities of complications and sequelae arise. In a number of cases two and a half and three billion organisms have been given in one injection to children under five years of age, with only benefit apparent. To date he has had practically no complaint of reaction and no soreness of arms where injection was given. Two patients were attended by trained nurses and temperatures taken regularly. On neither occasion was there a particle of febrile reaction following the vaccine. Painting the arm in the region of the deltoid insertion with tincture of iodine and placing the syringe in 95 per cent alcohol after each insertion have been the antiseptics observed. The injections have all been made subcutaneously. He concludes that vaccine seems effective in any stage of the disease and should be given, though the patient is well advanced in the paroxysmal stage. As a prophylactic in his experience it has been absolute, and every endeavor should be used to induce those who have been exposed, or who may possibly be exposed, to take advantage of the vaccine. The formalin lamp should be used whenever practical. Bromide of sodium with antipyrine, where a child will take it, should be given at 4, 7 and 10 P. M. to insure better sleep. The use of argysol should be considered. Kilmer's belt should be used even if no vomiting be present.

**Antitoxin:** The May number of the *Medical Council* states that large doses of diphtheria antitoxin rarely harm a person suffering from the disease, and always less harm results from an initial large dose than from repeated smaller ones. The large hospitals and the men who see most cases are a unit in advocating a dosage sufficiently large in the beginning of the disease to render complication impossible. This can be accomplished only by neutralizing the toxin present, and the size of the dose must be determined by clinical conditions. Children being more susceptible require doses little below those appropriate for adults. Carefully kept records show a definite decrease in mortality rate as the dose increased. In Boston City Hospital, before the period of antitoxin, 43 per cent died; under small dosage, 11.48 per cent died; under large dosage, only 7.6 per cent died, counting all classes of cases. Ehrlich's theory was that the growth of the diphtheria bacilli in the body early produces a toxin, which is provocative of the acute conditions, but that later a toxon comes into being, and it causes the late paralyses. The affinity between the toxin and the antitoxin is great, but it requires a relatively larger amount of antitoxin to neutralize and separate from the tissues the toxon; hence a surplus over and above what is necessary to neutralize the toxin should be given of antitoxin, else the toxon may not be neutralized at all. Clinical experience bears out this theory, as well as the necessity for large dosage.



As to the practical side, do not be afraid of antitoxin in large dosage, but hesitate over repeated small injections. Most doctors give doses wholly inadequate. The average case does better on 6,000 to 10,000 units than upon smaller doses, and one such dose promptly clears up the great majority of cases. When both tonsils are well covered with exudate for a day or two before antitoxin is given, it will take 30,000 to 60,000 units to clear up the case promptly; with palatal and nasal involvement, 100,000 units are demanded for adequate results, three large doses being sufficient to jugulate the disease.

**Diet in Heart Disease:** The May number of the *Therapeutic Gazette* states editorially that there can be no doubt that many physicians do not pay sufficient attention to the question of the patient's diet when they are treating them for diseases not necessarily associated with disordered digestion. By a curious condition of affairs it would seem probable at this time that advice as to diet is given in connection with certain conditions where it is not particularly essential, and is not given in other conditions where it possibly is the greater part of the treatment which is to be followed. He thinks that the institution of a very limited diet, both as to the variety of food and the quantity which is taken, is rarely necessary in cardiac disease, so far as the cardiovascular condition is concerned. If the liver is engorged, and as a result there is impairment of digestion, with gastroduodenal catarrh, it goes without saying that very small amounts of easily digested foods are essential, just as they are needed when digestive disorders of a primary nature are present. The use of very limited quantities of food means that the patient has to feed upon himself in order to get the number of heat units in each twenty-four hours which are essential for his existence. In the majority of cases of heart disease, whether they be instances of ruptured compensation due to valvular lesion or failing circulation due to myocardial degeneration, the chief endeavor of the physician is to put more strength into the heart muscle, and he fails to see how an exceedingly low diet is compatible with this effort. It certainly would not be considered compatible with an effort to increase muscular strength in other parts of the body. For this reason he differs from Satterthwaite, who writes in the *Interstate Medical Journal* that a fundamental rule which is always applicable is that the diet should be sparing. He also fails to agree with the statement that coffee and tea should be prohibited, and that chocolate is an undesirable beverage for heart patients, as it is too constipating, as well as the statement that liquids, if given freely, are an additional burden to the heart. So far as he knows, there is little or no evidence to indicate that coffee and tea, when taken in moderation, are disadvantageous in cases of heart disease. He also sees no reason, as long as the patient is able to digest it, why chocolate should be prohibited. He agrees with Satterthwaite to the effect that each patient is a law unto himself, but also feels strongly that unless there are exceedingly good reasons for the institution of rigid dietetic measures they ought not to be attempted. The commonly held view that the drinking of fluid greatly increases the labor of the heart by increasing the volume of liquid in the blood vessels is, he thinks, erroneous, and he emphasizes the point that there is no necessity in cardiac disease, if the kidneys are competent, of forbidding the patient a sufficient amount of liquid in small, divided doses, to allay thirst and make him comfortable.

**Quinine and Aspirin:** In the May number of the *Indianapolis Medical Journal*, S. E. Earp writes as to the toxicity of quinine and aspirin, in combination, and each separately. There has been considerable comment in the journals of late concerning the toxicity of this combination, and Doctor Earp's article is a timely one. He states that aspirin and quinine are popular remedies with

the laity. For the most trivial ailments hundreds of people seek the use of these two agents, and take them separately or in combination. He can hardly estimate the number of times he has known aspirin and quinine to be taken by individuals at the same time, but he has never observed an ill effect. The opinions of many doctors and pharmacists whom he consulted was the same. However, this does not mean positively that there is no danger in combining quinine and aspirin. If it is true, we should know it. Wilbur L. Scoville mentions a case in the *Journal of the American Pharmaceutical Association*, of the decomposition of a mixture of quinine sulphate and aspirin. By such a combination it was supposed that a death resulted in Detroit. Commenting on this the *Bulletin of Pharmacy* says: "If quinine and aspirin was the cause of death, and it is likely, druggists should be cautious." It speaks of a rash and other symptoms that have followed taking the two drugs at the same time. The poison formed seems to be quinotoxin. Doctor Earp states, however, that if the two drugs result in a decomposition, he calls to mind the fact that decomposition of aspirin takes place without the aid of quinine; that it is decomposed by heat, moisture and alkalies, and that antipyrine cakes it. Some of these toxic effects take place from the use of aspirin when not combined with quinine. Melchior observed an idiosyncrasy from aspirin, with urticaria, edema, etc., following a dose of 15 grains. Earp has noted similar cases in a mild form. Quinine poisoning, too, is not uncommon, and he has seen many cases. Thus it is fair to assume that there is an element of danger in the use of either aspirin or quinine; yet he cites the case of the soldier in the Civil War who took an ounce of quinine, slept for two days and then reported for duty. We must admit that the cases of poisoning from the use of these two agents are few and far between in proportion to the large quantities consumed. It is asserted that the combination may possibly produce from the quinine an isomeric poisonous body known as quinotoxin. Doctor Earp quotes a personal letter from W. A. Puckner, bearing on the subject, in which he states that while it has been established that quinine may be converted into a very toxic substance, he is inclined to believe that the danger from the simultaneous administration of quinine sulphate and aspirin is not great, and with this opinion Doctor Earp rather coincides.

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### NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

**Styracol Tablets, 5 grains.**—Each tablet contains 5 grains styracol. Merck & Co., New York.

**Tannalbin Tablets, 5 grains.**—Each tablet contains 5 grains tannalbin. Merck & Co., New York.

**Stanolind Liquid Paraffin.**—A non-proprietary brand of liquid petroleum, complying with the standards of the U. S. P., 8th ed., and made from American petroleum. Standard Oil Company of Indiana, Chicago (*Jour. A. M. A.*, April 1, 1916, p. 1027.)

During April the following article has been accepted by the Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies":

Mead, Johnson & Co.:

Mead's Dry Malt Soup Stock.

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## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred and twenty-ninth regular meeting of the Academy of Medicine was held Friday, April 21, 1916, at the Cleveland Medical Library, the President, Wm. E. Bruner, in the chair.

The minutes of the regular meeting of March 17th were read and approved. The minutes of the special meeting of March 31st were read.

The minutes of the Council meeting of April 11th were read and approved.

The following resolution was introduced by J. J. Thomas:

*"Whereas;* There is being formed in Cleveland a company under the name of the Co-operative Hospital Association, which proposes to furnish medical and other services to its members in return for a monthly premium, and, whereas, this company must depend upon the medical profession for the chief services which it proposes to render, it is eminently fitting that some of the facts bearing upon the project be presented to the Academy, and further, that the Academy express its judgment of the project.

(Here followed a statement of the known facts so far as it has been possible to ascertain them. [See original.]).

*Therefore;* Be it resolved, by the Academy of Medicine of Cleveland, that it deprecates and regrets the alliance of any physician with the Co-operative Hospital Association, and most emphatically criticises the relation of any physician to that institution as a stockholder."

G. W. Moorehouse moved that the Academy proceed to the consideration of the resolution by Doctor Thomas. Motion seconded and carried.

F. E. Bunts then moved that the Academy adopt the resolution as offered. Motion seconded. Carried.

### Program

H. N. Cole, following his paper upon "The Use of Radium in Dermatology," presented a number of patients showing various lesions upon the face cured by the application of radium. He then showed several lantern slides showing the lesions of these patients prior to treatment and also slides of other patients both before and after the use of radium.

C. W. Stile's paper upon "Some Public Health Aspects of the Race Question in the South" was exceedingly interesting. During the presentation he showed numerous slides illustrating the nature of the hookworm infection; the character of the unsanitary surroundings by which it is spread, and the retardation of physical development as well as the exceptional lesions and other conditions resulting from the profound anemia caused by the infection.

J. Bentley Squier showed a very interesting series of motion pictures illustrating surgical technic as seen during an actual operation. The presentation was commented upon by G. W. Crile.

Motion extending a vote of thanks to the guests of the evening was entertained and carried.

### Resolution

*Whereas:* There is being formed in Cleveland a company, under the name of the Co-operative Hospital Association, which proposes to furnish medical and other services to its members in return for a monthly premium, and, whereas, this company must depend upon the medical profession for the chief service it proposes to render, it is eminently fitting that some of the facts bearing upon the subject be presented to the Academy, and further, that the Academy express its judgment of the project.

According to the prospectus issued by this company, the Co-operative Hospital Association supplies its members with all medical, surgical and hospital care in case of sickness or accident. It gives its members the best possible medical and surgical service that can be had. Hospital service includes ambulance to the hospital, all operations, medicines, surgical dressings, private room and board in the leading hospitals in cities where it maintains regularly established offices. Office service includes consultation and treatment for minor ailments in the general offices of the Association. Home service includes medical and surgical attention day or night; and all medicines and dressings. Contract holders have their choice of any physician employed by the Association. Dental treatment includes examination, cleaning, extracting, and treating all acute temporary affections of the gums and teeth. All other work done by Association dentists at twenty per cent discount. All persons are eligible to membership provided that they are in good health at the time they make their application for membership. The Association will then furnish every medical and hospital service that is required. "When you have become a member of this Association and have paid your dues, you are at liberty to call upon any of our Medical Staff, Attorneys or Dentists at any time through this office." The hospital service shall include board, nurse and private room not to exceed 104 weeks for an individual on payment of \$2.00 membership fee and \$1.00 per week (Class A), or, not to exceed 75 weeks, also for an individual on payment of the same membership fee and \$0.75 per week (Class B), or, finally, not to exceed 50 weeks for a family, including man, wife and children up to fourteen years, on payment of \$3.00 as membership fee and \$1.50 per month (Class C).

In addition to hospital care the prospectus further specifies for all classes of membership: (2) Unlimited medical or surgical services, day or night, home or office, as required. (3) Free transportation to any part of the United States reached by steamship or railroad, in lieu of medical service, when sick or injured. (4) Ambulance service to any part of the city. (5) Drugs furnished free at any of our drug stores on prescriptions of our doctors. (6) Dental services, extraction and cleaning of teeth; relief of toothache and examination; all other work at twenty per cent discount. (7) Consultation of the Association's Attorneys without cost to members. (8) Free examination of the eyes by the Association's Optometrist or Oculist, all other work and appliances at twenty-five per cent discount. (9) Hospital and medical services in any city where offices are established or affiliated with other Associations.

SPECIAL RATES IN ALL CLASSES ON ANNUAL AND SEMI-ANNUAL CONTRACTS.

SEE AGENT FOR BLANKET RATES.

The efforts of the promoter of this company appears at present to be limited to the sale of its stock at a par value of \$10.00 per share. Any physician desiring to become one of "our doctors" is required to purchase at least one share of stock, although it seems possible that an exception may have been made in the case of a few men of prominence whose names would have been valuable assets to the company. The requirement that a share of stock be purchased is also true with reference to druggists, dentists, and lawyers, and presumably so with surgical supply houses, undertakers (since these are the only owners of ambulances) and optometrists, the latter appearing to be preferred by the writers of this prospectus to the oculist for the examination of the eyes.

Whether an attempt is being made at present or is to be made in the future to sell this stock in blocks rather than by the single share, as it has been purchased by the majority of physicians, is not known with certainty. It would seem, however, that a capitalization of at least modest size would be required to finance the projected hospital.



In attempting to judge this project physicians must consider its effect upon (a) the members of the Association, those who seek health insurance through it; (b) the physicians employed by it; and (c) the stockholders. It appears entirely immaterial that the holding of a share of stock is required of any physician who is desirous of increasing his income by selling his services to the Association. It is by no means immaterial to our consideration of this matter that there are to be physician stockholders whose interests are the same as those of the lay stockholder.

A. Membership in the Association may appeal to the layman as a desirable form of insurance. It is well known that unregulated insurance has been in the past a very uncertain protection, and such projects as this are entirely unsupervised. The prospectus appears to offer the highest type of medical service. We know that the most skilled among the physicians who have allied themselves with this project are busy men enjoying the rewards of that skill in a large private practice which we see no reason for believing they would reduce for the sake of entering upon what is in effect lodge practice.

It is further interesting to note that the promoters of this concern are making use of the popular articles by Doctor Richard C. Cabot, which appeared in recent numbers of the *American Magazine*. In these articles Doctor Cabot calls attention to the fact that for satisfactory work in medicine at the present day much more than the qualifications of any one man are necessary for the complete study that is requisite for the proper handling of many cases met with in private practice. The company appear to claim that the desired co-operation, which, according to Cabot, is a co-operation of practitioners and of laboratory experts, will be the type of service they will be in position to offer their members. Physicians may well regard this suggestion as one which will not bear close scrutiny.

B. The close relationship of the offer made by the company to its physician employee with that of lodge and contract practice should not be forgotten by any physician considering the acceptance of such a relation. Physicians have been solicited to ally themselves with this organization on the promise that they are to be one of the few so allied in their neighborhood. In this connection it should not be forgotten that all calls for services must be placed through the Association's office, and that all office practice is to be limited to these offices, according to direct and positive statements quoted above from the company's prospectus. If the physician feels that he can do conscientious medical work with advantage to himself, under the conditions proposed, other physicians may well question his judgment, but need not necessarily question his motives.

C. The relation of the stockholder to the general scheme is quite different from that of the member, or the physician accepting employment by the Association. The stockholder cannot find his investment profitable unless the amounts received from members exceed the amounts paid to physicians for services rendered. It would appear that the Association intends to capitalize the misfortunes of its members and to use its physicians as a means of deriving profit from this capitalization.

By some laymen this might be regarded as a legitimate proposition, the buying and selling of services, buying at a lower price what they can sell at a higher. To the physician stockholder, who in appearance at least looms large in this whole scheme, such buying of the services of his colleagues and selling them at a profit to the sick may well be considered as an impropriety, which, as related to the public, is similar to the receiving of rebates from drug stores, brace-makers and hospitals. The physician, whose services are thus bought and sold, should be competent to form his own conclusions concerning the transaction in its relation to himself.

The inability of the office of the Secretary of the Academy to secure the names and office addresses of related organizations, which are claimed to be operating successfully in other cities, either from the promoter or

the Association's attorney; the further failure to secure information of satisfactory character from cities in which these organizations are stated to be in operation; the unsatisfactory reply of a commercial rating agency in response to an inquiry as to the financial standing of the promoter of this concern, are added reasons for good hesitation on the part of any physician in allying himself in any way with the Co-operative Hospital Association.

*Therefore:* Be it resolved, by the Academy of Medicine of Cleveland, that it deprecates and regrets the alliance of any physician with the Co-operative Hospital Association, and most emphatically criticises the relation of any physician to that institution as a stockholder.

### CLINICAL AND PATHOLOGICAL SECTION

The one hundred and sixteenth regular meeting of this section was held Friday, April 7, 1916, at the Cleveland Medical Library, the Chairman, Frank J. Geib, in the chair.

The regular program follows:

**1. A Test of Visual Acuity as Part of Every Physical Examination, by W. E. Shackelton.**

The speaker called attention to the fact that many symptoms, especially those of headache, would be easily cleared away by the practitioner if a more general use of visual acuity tests were injected into the routine physical examination.

He cited a number of cases of headache, nausea, dizziness, in which examination showed a marked defect in visual acuity, with various errors of refraction. In all the cases the symptoms were relieved promptly by glasses. In one case, a child aged 9 years, who had frequent headache, pains over the eyes, and attacks where there was general twitching of the facial muscles with deviation and fixation of the eyes to the right, correction of the visual defect promptly relieved the symptoms. The case had been considered one of epileptiform convulsions.

N. Rosenwasser in discussion asked the speaker how he would explain the convulsions, all of which occurred at night, on the basis of visual trouble.

W. H. Tuckerman, in discussion, emphasized the point previously made by the speaker, of the importance of routine examination of visual acuity.

J. P. Sawyer, in discussion, said that there were many cases in which eye strain is responsible for secretory and other disturbances. Correction of visual defects will sometimes give relief from phenomena seemingly not at all associated with them. Thus, in cases of hyperchlorhydria. Correction of visual defects may relieve it. In women pelvic disease is also responsible for a number of symptoms seemingly not associated.

W. E. Shackelton, in rebuttal, pointed out that he made no attempt to explain the attacks alluded to. That they ceased immediately after correction of the visual defect and have not recurred, is a matter of fact.

**2. The Value of X-ray Treatment for Uterine Fibromata, also Menorrhagia and Dysmenorrhea, by G. F. Thomas.**

The speaker reported encouraging results, compiled from a number of sources, of treatment of uterine fibromata with the X-ray. Intensive treatment is essential. When it is considered that 25 per cent of women over 35 years of age have benign tumors of the uterus, which in a certain per cent of cases become malignant, the importance of any method of successful treatment is readily understood.

Heretofore the only successful method of treatment for this condition has been hysterectomy. The latter operation is associated with a mortality, averaging good, indifferent and poor technic, of perhaps 5 per cent. Cures in practically all cases have been reported by the use of intensive X-ray treatments.



No only does the method commend itself in the treatment of the average case, but especially in the particular type of case designated as a poor risk for operation. One factor to be considered is also the possibility of recurrence with any but the most radical operation. Another factor which must be considered is the fact that the patient is practically sterilized following the intensive X-ray treatments.

Still others undergo degeneration and suppuration. The use of the X-ray is certainly beneficial in some cases after operation, but the rational of its use before operation is questionable.

N. Rosenwasser alluded to his early experiences in the treatment of fibroids with the high frequency current.

**3. Some Thoughts on Gynecological Surgery, by W. H. Humiston.**

The speaker reported a series of almost 100 conservative operations on the ovaries and tubes. In dealing with these organs it is not good surgery to remove a good ovary or one partly good if the patient is under 40 years of age, and providing there is no gonorrheal or general infection.

In some cases the speaker has allowed a small portion of one ovary and one tube to remain and the patient went on to successful subsequent pregnancies.

Emphasis was laid upon the fact that the extensive field into which surgery has developed makes it utterly impossible for a surgeon to be equally proficient in all types of surgical work. The orthopedist has his special field, as has also the gynecologist and the nose, ear and throat surgeon. No man should practice surgery without sufficient experience, and no surgeon should attempt to practice in all of its fields.

W. H. Weir, in discussion, agreed with the speaker that the surgeon should make every effort to preserve at least a portion of the female generative organs, in suitable cases.

F. C. Herrick commended the work reported and emphasized the importance of specialization in surgery.

Intensive X-ray treatment is also to be commended in the treatment of dysmenorrhea and menorrhagia. However, it is likely to be followed by the artificial menopause. In reference to the menopause which occurs when intensive treatment is used for fibroids it is a question whether this should be considered a disadvantage, since the woman who becomes pregnant with fibroids does so at her own risk.

W. H. Weir, in discussion, gave as his opinion that the percentage of fibroids which degenerate and become malignant is approximately 4 per cent. The success of the X-ray treatment consists in bringing on the artificial menopause. As for recurrence, in his experience he never saw another fibroid form at the site from which one had been removed. As for dysmenorrhea, the patient may be cured, but she will also be sterilized. If the X-ray treatment simply diminishes the size of fibroids they may lie latent and later undergo malignant degeneration.

W. H. Humiston, in discussion, pointed out that a useful field for the X-ray treatments lay in cases of cardio-renal complex and the like, which constitute poor surgical risks. The mortality in hysterectomy naturally depends on the experience and technic of the operator.

F. C. Herrick, in discussion, cited three cases of uterine fibroid which had come under his observation. All were of long standing. One developed a pus kidney from pressure; in another the tumor underwent sarcomatous degeneration, and still another died, cause unknown. One must take into account that a young woman will not permit herself to be sterilized for the cure of fibroid. Statistics from the Mayo clinic are to the effect that from 8 to 10 per cent of all fibroids become malignant.

## OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SECTION

The eighty-fifth regular meeting of the Ophthalmological and Oto-Laryngological Section was called to order at 8:25 P. M., at the Cleveland Medical Library, April 28, 1916, Wm. B. Chamberlin in the chair.

The minutes of the last meeting were read and approved.

### Presentation of Cases

W. C. Tuckerman showed a child, age 2 years, with a history of inflammatory trouble in the left eye since four months old. When first seen by Doctor Tuckerman the lid was swollen completely shut and no structures could be made out through the cornea unless it were a discolored iris bound down by extensive posterior synechia. Under treatment the eye has quieted down and become inflamed at intervals, raising the question whether the eye ought not to be enucleated.

J. E. Cogan presented a middle-aged man with a postnasal tumor presenting in the oral pharynx and adherent to the posterior pillar on the right side. It appeared about  $\frac{1}{2}$  inch in diameter and projected  $\frac{3}{4}$  inch below the velum palati. Doctor Cogan stated that the tumor was very much larger, but on attempting to remove a small piece for examination there escaped a considerable quantity of blood with marked decrease in size of tumor. Patient stated that he had tumor for several years.

L. K. Baker showed a middle-aged man who, by fixing his eyes, was able to produce at will a very fine lateral oscillating tremor of the eyeball. The excursions of movement were equal in both directions and similar to the spontaneous congenital eye nystagmus except that the rapidity of the motion was much quicker.

Doctor Chamberlin, in discussing Doctor Cogan's patient, suggested that the tumor was a large nasal polyp which had undergone cystic degeneration.

### Program

Mr. R. B. Irwin, in discussing his paper "Classes for the Conservation of Vision in the Public Schools," explained that aside from the classes for the blind in the public schools there had been opened up several classes for those with marked impairment of vision; that is, such impairment of vision as materially hindered progress in school. At first an attempt was made to teach these with the completely blind, using raised letters, but it was soon discovered that children with vision sufficient to make out any letters did not readily learn the blind reading, because whenever the teacher was not looking, and they were uncertain of a letter by the feeling, they would immediately use their vision to correct their feeling. So these children now are classed by themselves and given instruction from books printed in especially large, clear type; and from large printing on blackboards. An attempt is made to use characters of such a size as to put no strain upon the remaining vision.

Mr. Irwin's paper was discussed by Doctors L. K. Baker, C. C. Stuart, Doctor Moore, of Akron, and Doctor Chamberlin. Doctor Baker thought that such classes might be utilized with children having one defective eye, in whom an attempt was being made to improve the poor eye by temporarily putting the good eye at rest and forcing the use of the poorer eye. Doctor Stuart in stating that he was glad to know of the work done in the schools, said that he was surprised at the speaker's statement in regard to the necessity of the physician referring these children to these special classes, as he was under the impression that the school examiner was in a position to pick out all these cases and refer them to such classes.

In reply to Doctor Stuart, Doctor Monson explained that in case of defective vision where the child was under the care of a physician, the school authorities referred the child back to its physician to avoid the



criticism of interfering in private practice. Doctor Stuart replied that he was glad to learn the position of the school examiner, but that he felt it was well within his province to refer any of these cases to a special class, as that was purely an educational matter and not a matter of treatment.

Doctor Chamberlin said that he was glad that the schools had been aroused to the necessity of taking care of children with poor vision, and he hoped they would soon wake up to the necessity of having special classes for stammerers and stutterers. In closing Doctor Chamberlin said that he voiced the opinion of the section in thanking Mr. Irwin for bringing before them the present status of these children in the schools.

Doctor Moorehouse's paper on "Treatment of Laryngeal Tuberculosis from the Standpoint of the Internist" was discussed by Doctors W. H. Tuckerman, Chamberlin, and Rockwood. Doctor Tuckerman stated that he was not as optimistic as the writer with regard to the healing of tuberculous lesions of the larynx, but agreed that the general treatment was much the greater factor in cure of this condition than any local treatment. Doctor Rockwood stated that of the 556 cases that he had discharged from Warrensville, 10 per cent of them showed involvement of the larynx. Other sanitariums have claimed as high as 25 per cent of laryngeal involvement. He said that taking the average length of tuberculosis which has been estimated as between six and seven years, that at some time during the course of the trouble laryngeal lesions have occurred, and healed without their presence being suspected. Doctor Chamberlin said that he thought with Doctor Rockwood that many laryngeal cases were overlooked; that at Warrensville no laryngologist had been employed to make laryngeal examinations.

Doctor Cogan in his paper was quite enthusiastic with regard to the use of ethyl-hydro-cuprin used in 2 and 1 per cent solution for infections of the conjunctiva, lachrymal sac and corneal ulcer. It was recommended first as a specific against pneumococcic infection and while in these cases it seemed to work more favorable than in others, he had had very favorable results when the pneumococcus was the infecting agent.

Doctor Stuart, in discussing his paper, said that he had only seen it used while visiting Professor Axenfeldt's clinic, and in this case violent reaction was set up by a 2 per cent solution. On account of the difficulty in getting the drug he had had no personal experience with it.

Present: Doctors Stuart, Hartzell, Cogan, Chamberlin, Monson, Opperman, W. C. Tuckerman, W. H. Tuckerman, Stotten, Garrett, Rockwood, Yodor, Ormsby, Moorehouse, Wood, and Doctors Brown and Moore of Akron.

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### COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine held Tuesday, May 2, 1916, at the University Club, the following members were present: The President, Doctor Bruner, in the chair; Doctors Sawyer, Taylor, Perkins, Moorehouse, J. J. Thomas, Follansbee, Dornstein, Updegraff, Sanford, Humiston and J. E. Tuckerman.

The minutes of the last meeting were read and approved.

Doctor Moorehouse reported that Doctor H. E. Mitchell had withdrawn his request for resignation.

On motion Doctor G. E. Follansbee was appointed local committee-man on medical defense for the Academy.

Doctor R. K. Updegraff was appointed to take charge of the Summer Outing of the Academy, having full power to select the place of meeting, make the general arrangements and to call to his assistance such members as he may need.

The Council decided that a general meeting of the Academy should be held in June upon the fourth Friday.

On motion the following were elected to membership in the Academy:

*Active*—Geo. A. Allison, C. S. Bogart, S. H. Franks, D. Handmacher, L. E. Heabler, J. E. Linden.

*Non-resident*—A. M. Painter, M. D., Youngstown, O.; Carl W. Sawyer, M. D., Marion, O.

On motion the following names of applicants were ordered published:

*For Active Membership*—H. J. Brickman, M. D.; Mary C. Goodwin, M. D.; M. M. Mandel, M. D.

On motion Doctor Wm. Clark was reinstated as an active member.

A communication from Doctor John H. Quayle was read. No action was taken.

The Council then proceeded to the report of the special committee on revision of the constitution and by-laws—in particular the method of nominating and electing officers. The committee was continued to make a final draft.

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**What Is Liquid Petrolatum?**—The use of liquid petrolatum in chronic constipation, which has recently become the vogue, has naturally been commercialized; as a result, also naturally, claims of superiority of one brand over another have been made. Some of these claims may have been well founded; others certainly are not. Some have claimed superiority for those products made from Russian oil over those made from American oils. As it was generally believed that naphthene hydrocarbons predominated in Russian crude petroleums, and paraffin hydrocarbons in American crude petroleums, it was assumed that the petrolatums derived from these sources differed from each other in like manner. Both the naphthenes and the paraffins are chemically inert; but some unexplained therapeutic superiority has been assumed to reside in the naphthenes. Consequently, it has been urged that the American liquid petrolatums should not be used internally. So far these claims and counterclaims have been based on much theory and little fact." *The Journal of the American Medical Association* publishes in its issue of January 1, 1916, a contribution by Benjamin T. Brooks, Senior Fellow in charge of petroleum investigations at Mellon Institute, Pittsburgh. "Brooks calls attention to the fact that Marcusson in 1913 pointed out that most of the so-called 'mineral oils' used for therapeutic purposes contained no paraffin hydrocarbons whatever; that they consist solely of naphthenes and polynaphthenes. Brooks confirms this statement so far as American liquid petrolatums are concerned. He states," says *The Journal*, editorially, "that many American petroleums, such as most of those from the Gulf region, are like the Russian in containing no paraffin; and that, in the case of those petroleums that do contain it, the customary refinery method of removing paraffin is sufficient to produce true naphthene and polynaphthene petrolatums. 'The claim that only Russian oils belong in this class,' he says, 'has no basis in fact and has been advanced presumably for business reasons.' The name 'paraffin oil' applied to these liquid petrolatums, then, is a misnomer. The new name, 'white naphthene oils,' as suggested by Brooks, seems superfluous, however, since the pharmacopeial title, 'liquid petrolatum,' is subject to no such objection."

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## BOOK REVIEWS

**The Starvation Treatment of Diabetes** (Allen). With a Series of Graduated Diets as Used at the Massachusetts General Hospital. By Lewis Webb Hill, M.D., Children's Hospital, Boston, and Rena S. Eckman, Dietitian, Massachusetts General Hospital, Boston, with an introduction by Richard C. Cabot, M.D. Second edition. W. M. Leonard, Boston, 1915. Price, \$1.00.

This little volume is a very clear and concise statement of the Allen treatment of diabetes and an excellent handbook for reference in the practical management of a case. It contains the progressive diet lists in detail up to the 15th day after the patient has been rendered sugar free, including the proteid, carbohydrate and fat content in grams and the caloric value. This second edition also contains case histories from the Massachusetts General Hospital with complete charts of variations in weight, caloric intake, etc., during starvation. There are several case reports of diabetes in children leading to the conclusion that the Allen treatment is the most effective way to overcome the glycosuria, but that the disease progresses rapidly in children as under any other form of treatment. One instance was in a boy of six years kept practically sugar-free from May to November, 1915, when he suddenly went into coma and died. One is impressed with the fact that the new treatment is much more efficient symptomatically but in no sense specific.

The author summarizes the essential points brought out by Allen's treatment as follows:

1. It is not dangerous to starve a diabetic, and two or three days of starvation almost always make a patient sugar-free, thus saving a good deal of time, as contrasted with the old treatment of gradually cutting down the carbohydrate.

2. It is not desirable for all diabetics to hold their weight. Some cases may do much better if their weight is reduced ten, fifteen, or even twenty pounds.

3. After starvation, the diet must be raised very slowly, to prevent recurrence of glycosuria.

4. An excess of protein must be regarded as producing glycosuria and an excess of fat ketonuria, and the protein and fat intake must be restricted a good deal more than has usually been the custom in treating diabetics.

V. C. R.

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**Theory, and Practice of Bloodletting.** By Heinrich Stearn, M.D., LL.D., Visiting Physician, St. Mark's Hospital; Consulting Physician, Methodist Episcopal (Seney) Hospital; Founder and Editor of the *Archives of Diagnosis*; Formerly Chairman, Section on Pharmacology and Materia Medica, American Medical Association, etc. Rebman Company, New York, 1915. Price, \$2.50.

This is quite a comprehensive treatise on the theory and practice of blood-letting. On the advent of the modern era in medicine the practice of blood-letting, which had been the panacea for all ills, fell into disrepute. Because of the abuse of the practice the pendulum swung in the opposite direction until blood-letting was entirely abandoned. Through the researches of physiology, pathology, and therapeutics the half-forgotten custom has been revived, its value truly estimated and its practice restricted to cases where its results can be shown to have a definite value. There is now danger that in certain hands the abuse may be reborn, the pendulum again swing and the whole process again be discredited.

This book begins with the history of blood-letting from the days of Podaleirios, son of Esculapius, to the present time. There follows a chapter on the Functional Changes following Blood-letting. This chapter is an attempt—it is rambling and incoherent. The third chapter treats

of the technic of blood-letting. The second half of the book considers the diseases in which the author thinks blood-letting is of value. The author uses the process with little provocation. If a personal opinion will be pardoned it would seem that this procedure occupies a distinct place among our therapeutic resources, but that it is applicable in a very small number of cases. No one disputes its value in those circulatory disturbances associated with dyspnea, cyanosis, and overdilatation of the right auricle, in certain cases of pneumonia, in robust patients, where the heart is laboring with an excess of blood in the pulmonary circuit, in pulmonary edema "where the outflow of venous blood in the lungs meets an obstacle which can no longer be overcome in the mechanical force of the right ventricle" (Strumpell). Speaking of such cases, Dielafoy says: "The urgent indication is bleeding." To these indications we may add certain cases of uremia.

The book is one which few will care to buy, but which may be read with profit if one keeps his feet on firm ground. H. C. K.

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**A Handbook of Infant Feeding.** By Lawrence T. Royster, M.D., Attending Physician, Bonney Home for Girls and Foundling Ward of the Norfolk Society for the Prevention of Cruelty to Children, etc. Illustrated. C. V. Mooby Company, St. Louis, 1916. Price \$1.25.

Most of infant-feeding is conducted by the family practitioner. For the man in such a practice this book is intended. In the preface the author states that "the specialist in diseases of children will find nothing in it new or original." The purpose of the book is to furnish to the man in general practice, who has much he should read and little time in which he can read, the essentials of truly scientific infant-feeding.

It is a small book—125 pages of text. Yet it is remarkable how much real matter the author has written into these pages. It covers the whole field. It is scientific and at the same time readable. It is modern. It is individual and expresses the author's individuality without failing to be representative.

There is a chapter on the stools in infancy by John Lovett Morse of Harvard which is a masterpiece.

There are chapters on Digestive Disturbances, The Handling of Difficult Feeding Cases, Infant Feeding During the Second Year, Marasmus, and the Infectious Diarrheas.

Many of the advances in infant-feeding have been obscured from the average man by the volume of literature and the scientific language in which it has been expressed. This little book places all the worth-while material within the reach of everyone. And moreover the author shows the now-a-days rare trait of common sense in infant-feeding.

For the information of those wishing information on simple dilution feeding it may be said that the author estimates the percentage of the elements in the infant's dietary and then checks up the number of calories needed and furnished.

Without qualification the writer can recommend the book to anyone wishing a short readable account of infant-feeding. It is by far the best of several books written with the same purpose. H. C. K.

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**Reports of the Clinical Conferences of the Neurological Institute of New York. 1914-1915.**

This volume consists of the reports of a large number of cases by the various members of the staff of the Institute. Because of the very large number of neurological patients seen at the Institute, many interesting and unusual cases come under observation. T. S. K.



## NO INSTRUCTION FOR OFFICERS OF MEDICAL RESERVE CORPS

Owing to the withdrawal of troops from their regular stations for duty on the Mexican border, the War Department has been compelled to abandon the camps of instruction for officers of the Medical Reserve Corps, that were to be held during the coming summer.

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**Army Medical Corps Examinations.**—The Surgeon General of the Army announces that preliminary examinations for the appointment of First Lieutenants in the Army Medical corps will be held on July 17, 1916, and August 14, 1916, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, shall be of good moral character and habits, and shall have at least one year's hospital training as an interne, after graduation. The examinations will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examination, applications must be completed and in possession of the Adjutant General, at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There will be more than one hundred vacancies to be filled after July 1st, when the Bill for the reorganization of the Army becomes a law.

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**Health Insurance.**—In response to public interest in health insurance the Massachusetts Legislature has created a commission to study social insurance with special reference to sickness. The state department of health and the bureau of statistics are directed to co-operate with the commission of nine members which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar state commission already at work on this problem which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York and New Jersey. Proponents of this legislation believe it will bring about a movement for "health first" comparable to the safety first campaign which followed workmen's compensation for accidents.

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## THE ENZYME THEORY OF LIFE

By LEONARD T. TROLAND

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The fundamental problems of modern theoretical biology may be classified into five groups. The first, in time—and probably also in importance—concerns the manner of origin of living matter, as a phase in the process of cooling of the terrestrial globe. The second, hinging closely upon the first, involves what is now the foremost question in the theory of organic evolution: the source of variations. The third inquires into the mechanism of heredity, a field of research in which very rapid strides are now being made, but in which much of mystery still remains. The fourth group of problems touches upon the mechanics of individual or embryological development, concerning which the new science of experimental morphogenesis has revealed, or suggested, so much. Finally, there is the great general question of the ultimate basis of physiological regulation in the mature organism.

Partial and tentative solutions have been offered for all of these problems, but practically all of the solutions suffer either from vagueness or lack of generality. They show the approximate directions in which biological thought must travel, but do not provide a chart and compass. It is my present belief that the main conceptions to be set forth in this paper furnish such a guide. Framed in these conceptions, the answers to the five fundamental questions of theoretical biology become a single proposition, which is at once universal and distinct. Such an answer, of course, cannot contain much detail, although from it can be deduced infinite detail. Such an answer, also, cannot be entirely new, because no fundamental truth has ever remained completely hidden.



Two general types of replies can be given to all questions concerning life processes. They may be either vitalistic or mechanistic. Opinions differ, but I believe that the soundest opinion still is that vitalism could only be justified scientifically as an honest confession of ignorance, but that in reality it is not even honest. If, then, we seek for an explanation of vital structures and functions with methods similar to those employed by the physicist, we are led almost immediately to a very important conclusion. Living organisms are complex and active *chemical systems*, and the secret of life must be looked for among the conceptions of physical chemistry.

The conception which, in my belief, constitutes this secret, and which—hence—will ultimately prove to be the key to the five fundamental mysteries of theoretical biology, is the conception of *catalysis*. There are, of course, many other processes in living organisms besides catalysis; in no other locus, indeed, can so wide a variety of principles be found acting simultaneously and in conjunction, and yet it is my thesis that the peculiarly vital properties of living beings depend directly upon catalytic action, or upon the developmental history of catalytic systems. The *essence* of life is catalysis, and this is no vitalistic “entelechy,” but a plain physico-chemical process.

Let me remind you briefly of the definition of catalytic action. Every chemical change involves the destruction of certain substances and the formation of others, and each such change takes place at a definite characteristic rate, *i. e.*, involves the destruction or formation of a definite amount of the given substance in a unit of time. Some changes occur, naturally, very slowly; others very rapidly. Now a catalyst is any substance which, when mixed with chemically active bodies, either accelerates or retards their characteristic rates of reaction, without modifying the change in any other way. A typical catalyst itself remains unaffected by the reaction, and extremely small quantities of the catalyst often suffice to produce very striking accelerations of chemical rates of changes. An example is the quickening of the decomposition of hydrogen peroxide by finely divided platinum, even when the latter is present at a concentration of only one part in three hundred million. The closest

analogy to catalysis in the realm of ordinary mechanics is the process of lubrication, in which the lubricant plays the part of the catalyst.

Physiology long ago established the fact that catalytic action is of frequent occurrence in living organisms, and is of extreme importance to their welfare. The realm in which this process has been most clearly demonstrated is, of course, that of alimention. Pepsin, ptyalin, trypsin, erepsin, etc., are the essential agents of digestion, and they are all catalysts. Kühne suggested that organic catalyzers be called *enzymes*, to distinguish them from supposed organized "ferments." The number of these bodies now known is quite large.

An enzyme differs in no essential particular from an inorganic catalyst. However, there is one characteristic of catalytic action which is exhibited more distinctly by enzymes than by the majority of inorganic catalyzers. This is their *specificity* or their power to accelerate or retard certain particular chemical changes without noticeably influencing others. Upon this specificity of catalysis rests the entire weight of the biochemical theory which we are to consider. Any complex mixture of relatively stable substances—such as, for example, protoplasm or sea-water—may be regarded as conditioning a vast number of very slow-moving chemical changes, which go on constantly. If a catalyst or enzyme is introduced into this mixture it will accelerate certain of these changes, but will not affect others. For all practical purposes, the chemical fate of the mixture will depend entirely upon what catalyst is present, since the non-catalyzed reactions will be so slow as to be negligible.

With these introductory remarks, let us return to a consideration, in order, of the five fundamental problems of biological theory, and a schematic statement of the manner in which their solution is made possible by the conception of enzyme action.

There is practically no doubt that living matter originated in the warm, primeval oceans. Various hypothetical accounts of the chemistry of its origin have been constructed, but none is so satisfactory as that afforded by the theory of enzymes. The chemical elements of which protoplasm is built up were all present in abundance in the Archean seas. Primitive protoplasm, for which I have suggested the name *eoplasm*, must have been



very much simpler than the complex mixture of substances making up any living body which we know today, and it is reasonable to suppose that chemical changes leading to its synthesis were going on, at least slowly, throughout the ocean water.

Thus far, the presuppositions of the enzyme hypothesis of the origin of life do not differ from those of all other chemical theories. However, these presuppositions do not involve the real difficulties of the problem, which concern the manner of creation of a *living cell*, capable of growth and reproduction.

Let us suppose that there suddenly appears at some point in the ocean body one molecule of a catalytic substance having the following characteristics. First, its specific catalytic power is such that it causes a radical increase, in its immediate neighborhood, of the chemical reaction which builds up *eoplasm* from the ocean solutes. Second, it has a further specific catalytic effect upon the reaction which was responsible for its *own* initial production. In other words, it is not only catalytic, but also *auto-catalytic*. Such an agent, doubly specific, may be called a *genetic enzyme*, and for this primeval exemplar of the species we may employ the name *protase*.

The result of the production of one molecule of protase in the ocean waters can easily be seen. With regard to the enzymic substance itself, the consequences will be similar to those following the introduction of a small crystal into a supersaturated solution; further molecules will be formed about the original one—at a constantly increasing rate. But, simultaneously, there will also be formed an envelope of *eoplasm*. This is the picture afforded by the theory of enzymes of the genesis of the first and most primitive living cell. The general plan of the cell is that of all cells, the mass of protase constituting the *nucleus* and the surrounding catalyzed substance, the *cytoplasm*.

A moment's consideration will show that this primitive cell possesses the most fundamental properties of a living organism: the capacity for growth and reproduction. Growth would mean merely a continuation of the original chemical process which first produced the cell; reproduction would be simply the physical splitting of the waxing globule of catalytic and catalyzed substances into two or more globules, a process which would be repeated *ad infinitum*. \*

The above account of the chemical origin of the simplest conceivable living cell stimulates a number of pertinent questions, the answers to which can only be hinted at in a paper as brief as this. In the first place, eoplasm must have been a substance with peculiar physical and chemical properties. It must have been a compound, primarily, of carbon, hydrogen and oxygen; it must have been an oil, insoluble in water, but of about the same specific gravity as the latter. Whether such a substance exists and whether it can be synthesized from the solutes of the primeval oceans is a question of detailed chemistry and geology. There is small probability, however, of a negative answer.

A second query relates to the double catalytic power of protase. Chemistry furnishes us with many examples of autocatalysis, and there are reasons for believing that all substances are, to a certain extent, autocatalytic; from the point of view of the structure of matter, autocatalysis is strictly similar to the process of crystallization initiated by a specific crystal. Howbeit, it is certain that all genetic enzymes must possess the autocatalytic property. That a given genetic enzyme should simultaneously possess the power to catalyze an external reaction is not remarkable, since probably no catalyst is limited by its specificity to a single effect. It does not prejudice the enzyme theory to admit that protase is a rare substance.

A third, a very important, question concerns the *source* of the first molecule of protase. With the consideration of this question we can enter upon a discussion of the second fundamental problem of biological theory, the origin of variations. The supposition that protase is autocatalytic makes it possible for us to base our theory of the origin of life upon the assumption of the spontaneous production of a *single molecule* of the necessary substance. When we attempt to discuss the conditions controlling the production of single molecules, we find that the ordinary laws of chemical action afford us little assistance. These laws express statistical averages, which apply only to the behavior of a very large number of molecules, taken together. Individual molecular events are *chaotic* and practically unpredictable. We are forced, therefore, to say that the production of the first molecule of protase was an *accident*, a chance occurrence. However, theoretically, it should be possible to calculate the probability of this accident, and thus to determine the reasonableness



of our assumption that it actually occurred. I have made a preliminary attempt to work this problem out mathematically, using certain plausible suppositions, and have arrived at the result that the probability value is very high, regardless of the structure of the protase molecule.

It is a well established fact that organic variations, whether they be quantitative or qualitative, follow closely the laws of chance. This principle as well as certain deviations from it, is immediately explained by the theory of genetic enzymes. The production of protase was the very first organic variation, and it was the result of an accidental event in that "molecular chaos," which is so familiar to all students of modern physics. So it is, also, with the production of all further *elementary variations*.

By elementary variations, I mean the addition (or subtraction) of what students of Mendelian heredity call "unit factors." Such variations are now called "mutations," and are to be distinguished from variations resulting from new forms of combination of unit factors already given. Protase represents the first "mutation," and the first "unit factor." The molecular chances which caused its production may be relied upon, from time to time, to give rise to further genetic enzymes. Each of these enzymes will be autocatalytic; each will catalyze some special chemical reaction, either in eoplasm itself, as a base, or in the environment of the cell; and each will thus *add* a new and permanent *character* to the genetic line.

We have represented both protase and eoplasm as pure chemical substances. What we call protoplasm, however, is a very complex mixture of substances. On the enzyme theory, this complexity should be duplex; for each new component, whether of structure or function—in the cytoplasm there should be a corresponding component contained in the cell nucleus. A brief paper will not permit the discussion of the exact mechanisms by which specific enzymes can be conceived to confer almost any desired new property upon the cell. Suffice it to say that such mechanisms can be definitely described, and that, thus far, no other hypothesis has been advanced, the fruits of which are equally definite, and at the same time so universal.

The isolated single cell organism undoubtedly had a long evolutionary history, and hence had developed a complex system of genetic enzymes, before variations, and environmental condi-

tions, arose which encouraged the development of multicellular forms. Such multicellular organisms must be regarded as more or less incidental and ephemeral offshoots from an immortal unicellular line, the form and functions of the multicellular organism being, in the last analysis, chemically determined by the zymotic content of the unicellular individuals. The immortal unicellular line is, of course, the so-called germ-plasm, and in highly developed forms of life the zymotic constituents of the germ-plasm must be directed almost exclusively towards the control of the chemical processes which build up the multicellular somatoplasm. The ultimate cause for the existence at any time of a particular type of control of this sort is to be found in the evolutionary history of the germ-plasm, *i. e.*, in the chance variations in zymotic structure which have appeared and in the action of natural selection upon the fruits of these variations.

We may now turn to our third fundamental problem, that of the mechanism of heredity. I hardly need to point out to you that since the rediscovery of Mendel's law, by Bateson in 1900, our knowledge of the underlying principles of heredity has increased with startling rapidity. It has been found that a wide variety—and probably all—of the inherited characteristics of an individual behave, in breeding experiments, as if they depended upon distinct and separable *atomic factors*. Any given species or variety has a characteristic *formula*, and laws have been determined by the use of which it is possible to deduce the formulae of the offspring of any two parents from those of the parents. Besides this, recent work, principally by T. H. Morgan and his pupils, has shown that the Mendelian unit factors must have a definite representation in the chromosomes, which make up the main part of the germ-cell nuclei, since it has been established that the laws of combination and exchange of the chromatin accurately parallel those of systems of unit factors. All of this is in close harmony with the earlier hypotheses of Weismann.

The Mendelians themselves have emphasized no definite hypothesis as to the physical or chemical nature of the unit factors, or the mechanism by which they determine organic "characters." It is evident, however, that if the theory of enzymes be true, the unit factors are identical with the individual genetic enzymes of the germ-cell nuclei; and that they determine organic characters directly or indirectly by means of their catalytic action.



That such genetic enzymes are strikingly fitted to play the part of unit factors is shown in a number of ways. In the first place, each enzyme is a definite chemical substance, with a specific effect, depending upon its chemical nature; and all chemical substances are separated from one another by qualitative gaps. This is true also of unit factors, which in general do not blend with each other. Secondly, it should be expected, on the enzyme theory, that the production of any given organic character would involve the co-operation of a number of catalytic agents, since more than one chemical process would probably be necessary. In harmony with this, it is found that a single organic character may depend upon a large number of unit factors, and that the same unit factor may affect more than one character. Thirdly, inheritable variations, on the enzyme theory, ought to be qualitative and discontinuous, because they involve the addition (or subtraction) of a distinct catalytic substance. If we accept the modern doctrine of "mutations," this expectation, also, is satisfied.

Intimately connected with the problem of the ground of heredity is that of the mechanics of individual development, or of the exact manner in which the constitution of the germ-cells governs the transformation of the fertilized ovum into a mature organism. This is heredity in action, and it is in this field that the theory of genetic enzymes proves itself maximally efficient in the dissipation of mystery. The main lines of thought laid down by Weismann are still followed, but the "biophores," and other abstract elements of his system are given a concrete significance, and the relation of catalysis makes it clear how these elements—when identified with enzymes—can *actually determine* ontogenetic events.

The established facts with regard to catalysis do away at once with the principal vitalistic objection to the Weismannian theory; *viz.*, that the human germ-cell, for example, is too small to contain a *machine* sufficiently complex to engineer the development of such an intricate structure as a human organism. Almost infinitesimal amounts of catalytic substance will suffice to produce a relatively enormous change in a rate of chemical reaction. Moreover, when we take the molecular point of view, we see that, after all, the germ-cell nucleus is really a tremendous structure; a simple calculation shows that it may easily contain a million molecules of specific zymotic substance for each of the billion or more cells in the human body.

However, the hypothesis of a point to point correspondence between the structure of the chromatin of the germ-cell nucleus and the cell-structure of the developed organism—which is implicit in Weismann's teachings—is untenable. Weismann supposed that throughout the process of cell-division which builds up the organism, there occurs a progressive sifting out and laying down of the biophores in the various characteristic tissues of the organism, as they develop. Something resembling this must indeed occur, but both the results of "regeneration" experiments, and argument from evolutionary premises, show that the partition of the original zymotic material of the fertilized ovum to the body cells, can follow no simple law. Similar conclusions may be drawn from studies in Mendelian heredity.

It must be kept in mind that, genetically, every cell in the mature multicellular organism is a modified germ-cell, and that the primitive multicellular organism is a protozoan, or protophytic cell-colony, in which the members are very little differentiated from one another. Since, on the enzyme theory, variations are in general, additions, we should therefore expect each body cell to contain most of the zymotic determinants present in the germ-cell, so that under the right conditions almost any cell might reproduce the entire organism. However, it is certainly essential that some inherent differentiation of the enzyme constitution of cells should occur in the process of individual development. The observed mechanics of karyokinesis, or partition of nuclear material between dividing cells, is not consistent with Weismann's doctrine of the sifting out of biophores, but it *is* consistent with the idea of a rearrangement of these units, as development proceeds, and such rearrangement might easily account for a change in the reaction of the cell to a given environment. It must be admitted, however, that in many cases this reconstitution of the enzyme content of the cell, which occurs in ontogeny, goes so far that it is no longer possible for it to function as a germ-cell under any conditions. The more highly developed a multicellular organism is, the larger the percentage of its component cells which have definitely lost the germinal character.

The ruling principle regarding the behavior of the hereditary material of the nucleus during cell division may therefore be defined as that of *reduplication*. The theory of genetic enzymes explains clearly the mechanism by which this is accomplished.



Mendelian studies have shown that the unit factors are probably arranged along the length of the chromosomes in linear order, and cytology tells us that the chromosomes reproduce by increasing in thickness, and then splitting lengthwise. If the unit factors are masses of specific autocatalytic enzymes, this is exactly what should be expected, since an enzyme acts only where it is, and a chain of enzymes each catalyzing its own production would generate another identical chain. There is evidence, however, that reduplication is not the only principle at work in karyokinesis, and quantitative considerations, which cannot be entered into here, make these deviations quite consistent with the enzyme theory.

The majority of students of the subject now believe that the basis of heredity is chemical or physico-chemical. In the minds of many, this belief seems to imply the rejection of definite *structural* conceptions with regard to the germ-plasm. That this is an egregious error is patent to any one who is acquainted with modern notions as to the constitution of matter, since all chemical properties depend, in the last analysis, upon peculiarities of atomic and molecular structure, and if molecules and atoms exist they must inevitably form some definite pattern. Now, one of the most important influences in determining the *form* of the mature organism, must be *the control of the planes of segmentation* of the cells in the developing embryo. There is no reason whatsoever why this control should not depend upon the actual spatial configuration of the genetic enzymes in the chromatin.

Time will not permit a consideration of details of the application of enzyme theory to the problem of individual development. However, it should be pointed out that this theory is full of very suggestive conceptions: zymogens, coenzymes, kinases, antienzymes, etc., all of which are probably relevant to the finer questions concerning the ontogenetic mechanism.

The fifth main problem of biological theory, that of the ultimate basis of physiological regulation in the mature organism, is one in the solution of which the enzyme has already played a large and obvious part. Of course, the burden of such regulation is carried by the special structure of the neuro-muscular system. But, in so far as it is directly chemical, the secret appears to lie in the specific catalytic properties of the various tissues. Practically the same raw material is supplied in the blood to all parts of the body and yet the substances which different cells build up

from the blood are extremely diverse. No doubt the differential permeability of membranes is involved in this process, but the fundamental principle is probably catalysis. It has even been shown that regulation at a distance can be accomplished not only by the nervous system but by means of chemical substances, called hormones, carried by the blood stream from one part of the body to another. These are probably catalytic agents.

The ultimate basis of mature physiology is, of course, strictly speaking, heredity and the germ-plasm, and thus—on our theory—always the genetic enzymes. With ontogenetic development, enzyme constitution is translated more and more into macroscopic and microscopic structure, but even in the latest stage the enzyme itself still plays an important role. Whether the enzymes of alimentation, for example, are identical with any genetic enzymes originally contained in the germ-cell is a question which we cannot decide, on the basis of our present knowledge. It is quite conceivable that all of the apparent and abundant enzymes of an animal or plant body are themselves catalyzed products of the action of the less apparent and abundant agents of the cell nucleus. Catalytic cascades of all degrees of complexity may be conceived to exist.

Back of all these intricate processes, back of all of the details of structure upon which they so largely depend, lies the system of genetic catalysis in the germ-cell. The form of this system, for any species, is dependent upon the evolutionary history of that species, upon the array of autocatalytic enzymes produced by the accidents of molecular variation, and upon the ability of these enzymes to catalyze chemical changes which will assist the species in its struggle with destruction. The essence of life, however, is catalysis. Life, according to this conception, is something which has been built up about the enzyme; it is a corollary of enzyme activity.

Note—To a medical audience, may be of interest the speculation that the so-called "filterable viruses" of "foot and mouth disease," rabies, small-pox, and other contagious maladies having no visible germs, are in reality specific—free—autocatalytic enzymes, propagating in the tissues of the patients. It is conceivable, also, that cancer may have a similar basis, and it is certain that, even in definitely bacterial diseases, enzyme action plays an important part.

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## HERNIAS OF THE URINARY BLADDER

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The permanent or temporary escape of a part or the whole of the urinary bladder, through any of the usual or unusual hernial orifices, is uncommon. Nevertheless, many cases have been published and a much larger number have been allowed to pass without record. In a long series of hernia operations, every surgeon is certain to meet with some instances of hernia of the bladder. The urinary bladder in part or in its entirety is present in 1 per cent of all hernias.

Though the term hernia implies the presence of a hernial opening, of a hernial sac, sac-contents and sac-coverings, we know that in many hernias of the urinary bladder the sac is either incomplete or totally absent.

To designate the clinical entity under consideration, we fail to find any other term more appropriate, more sanctioned by long usage than that of hernia of the urinary bladder.

Many operators have unknowingly punctured, incised, ligated or removed a herniated bladder-process and then closed the hernial canal and operative wound in the usual way. Bladder protrusions have been excised by mistake for hernial sacs, or stitches used to close hernial canals have been passed too deeply and found at the necropsy to have caught the bladder.

This article is based on an analysis of all the vesical hernias reported with sufficient data in the English, French and German languages from 1896 to 1914, inclusive (literature to which access can be had at the John Crerar Library, Chicago, Illinois), and also on some unpublished personal cases (in all one hundred and fifty-nine patients, representing one hundred and sixty-four vesical hernias).

As vaginal bladder hernias fall more appropriately within the domain of the gynecologist, we decided not to include them in this contribution. All the hernias considered were external hernias, that is, their outermost overlying saccular covering was skin; each after reaching a certain stage of development, gave rise to a more or less visible and palpable, external swelling

in the obturator, femoral, inguinal or other region, depending upon the anatomical location of the hernia.

#### Incidence as to Age

It was not possible, in most cases, to ascertain the age at which the hernia first appeared. We therefore tabulated the age of the patients at the time of operative relief. In three cases, the patient's age at time of operation is not or is indefinitely stated (a young man, a multipara). The other patients at time of operation were from:

18 months to 5 years.....	7 cases
6 years to 14 years.....	6 cases
16 years to 25 years.....	9 cases
26 years to 35 years.....	27 cases
36 years to 45 years.....	31 cases
46 years to 55 years.....	36 cases
56 years to 65 years.....	18 cases
66 years to 75 years.....	15 cases
76 years to 80 years.....	5 cases

Our personal clinical observation and a review of the literature justify the following conclusions as to age incidence of hernias of the urinary bladder:

a. They are extremely rare in infancy, childhood and adolescence. During the first year of life, not one patient, and previous to the sixteenth year, only thirteen patients are reported to have been operated for hernia of the urinary bladder.

b. They are most frequent after the fortieth year of life. Ninety-one patients out of one hundred and fifty-nine unselected consecutive herniated individuals were operated for the relief of this condition during the fifth and subsequent decades of life.

c. Hernia of the bladder is an infirmity occurring chiefly in advanced life.

#### Incidence as to Sex

Hernias of the urinary bladder, like all hernias of viscera common to both sexes, are found more frequently in males. The one hundred and sixty-four herein studied and analyzed were distributed as follows: Masculine pseudohermaphrodite, 1; females, 62; males, 96.



Case reports show that, in the female, these hernias occur in nulliparae, in primiparae and in multiparae. They first become manifest either before, during or after gestation, or between successive pregnancies.

In looking over the cases, we find that vesical hernias have occurred in:

1-para .....	5 times
2-para .....	3 times
3-para .....	2 times
4-para .....	1 time
6-para .....	1 time
8-para .....	2 times
9-para .....	1 time
14-para .....	1 time
Multipara .....	3 times

In the other female subjects, no definite statement is made as to pregnancy.

#### Incidence as to Side Involved

Most hernias of the urinary bladder are unilateral. Out of one hundred and fifty-nine patients suffering from this infirmity, only five presented double vesical hernias. In thirty-seven females and fifty-one males the hernia was on the right side; in seventeen females and forty-one males, it was on the left side. We thus see that hernias of the urinary bladder show in both sexes a noticeable predilection for the right side.

In bilateral hernias, both hernias either appear simultaneously, or, as is more frequent, an interval of time, measured in weeks, months or years, elapses between the appearance of the first and that of the second hernia.

#### Anatomical Types

Hernias of the urinary bladder appear at various sites. Indirect or oblique inguinal hernias escape from the abdominopelvic cavity, above Poupart's ligament, by way of the external inguinal fossa, and follow in their progress outward the course of the spermatic cord in the male, or of the round ligament in the female. They are complete or incomplete, according as the herniated viscus or viscera emerge or not beyond the external

opening of the hernial canal. The complete are pudendal or scrotal. In the former, the hernial swelling descends into a labium majus, in the latter, into a scrotal pouch.

Direct inguinal hernias escape from the abdominal cavity by emerging through either the middle or the internal inguinal fossa and first appear externally at the superficial abdominal ring. Direct inguinal hernias are always to the inner or medial side of the deep epigastric vessels, and, unlike the indirect, do not follow the entire course of the inguinal canal.

In our cases, we find twenty-seven patients with direct inguinal hernias and eighty-seven with indirect or oblique inguinal hernias. Of the twenty-seven patients with direct inguinal hernias, five were females. Direct hernias are very rare in the young. Thirteen of the eighty-seven patients with indirect or oblique inguinal hernias were females.

In our list of cases there were forty-two femoral hernias, forty of which occurred in female patients and two in males.

What precedes shows that:

*a.* Inguinal vesical hernias are more common in men than in women.

*b.* Femoral vesical hernias are far more common in women than in men.

*c.* Femoral hernias of the urinary bladder are an exception to the general rule, which is that inguinal hernias are more frequent in women than femoral hernias. Forty female patients presented femoral vesical hernias and only seventeen presented inguinal vesical hernias.

*d.* Direct inguinal vesical hernias are of frequent occurrence. Out of one hundred and fourteen inguinal vesical hernias, twenty-seven were of the direct variety, that is, in twenty-seven cases the herniated bladder-process was to the inner side of the deep epigastric artery.

Gladstone's case of left obturator extra-peritoneal bladder hernia is the only obturator vesical hernia reported in the period covered by this paper. It coexisted with a right obturator tubal hernia of the third variety and a right reducible femoral intestinal hernia.

Gerulanos' and Tédénat's cases were irreducible supra-pubic vesical hernias of the linea alba. In these two cases, both of which occurred in eight paras, the pedicle of the hernia swelling passed



above the upper surface of the symphysis pubis, and had emerged from the abdominal cavity through a round orifice between the two recti muscles.

According to the relation which the bladder protrusion bears to the peritoneum, hernias of the urinary bladder are classified into the following three varieties:

- a. Intra-peritoneal, in which there is a complete hernial sac.
- b. Para-peritoneal, in which the herniated bladder-process is covered by peritoneum on one surface.
- c. Extra-peritoneal, in which the herniated portion of the bladder is neither engaged in nor contiguous to a hernial sac.

In the intra-peritoneal variety, the herniated portion of the bladder has a complete peritoneal covering and is contained in a true hernial sac. In the para-peritoneal variety, the herniated bladder-process lies to the inner side of the sac, and its serous covering enters in part into the formation of the hernial sac. Part of the herniated bladder-process has no peritoneal covering. The para-peritoneal form is not uncommonly a sliding hernia, and is frequently due to a continuous pull and traction exerted by the sac of an existing enterocele, epiplocele or entero-epiplocele upon the peritoneal covering of the urinary bladder. In the extra-peritoneal variety, the herniated bladder-process has no peritoneal covering. The prolapsed bladder is neither present in nor does it enter into the formation of a hernial sac. The extra-peritoneal bladder protrusion is in relation with the subcutaneous tissues and is always distinct from and to the inner side of the hernial sac, if one be present.

In one hundred and sixty-four reported cases, the hernia is definitely stated to have been:

Intra-peritoneal in 4 cases (females, 1 case).

Para-peritoneal in 53 cases (females, 21 cases).

Extra-peritoneal in 58 cases (females, 22 cases).

In the cases not included in the above tabulation, the relation of the herniated bladder-process to the hernial sac, when one was present, is not precisely recorded.

#### Clinical Types

Any hernia of the bladder, be it intra-peritoneal, para-peritoneal or extra-peritoneal, may be reducible, irreducible, inflamed, obstructed or strangulated.

If the contents of a hernial sac return spontaneously to or can be manipulated back into the abdominal cavity from which they have escaped, the hernia is said to be reducible. At first most vesical hernias are reducible; the larger number, sooner or later, become irreducible. Reduction of hernial contents, spontaneous or manual, may be temporary, may be permanent, and is effected with more or less difficulty (general anesthesia may be required). In our collected cases, there were forty-eight hernias, the contents of which could be completely reduced. Sixteen of these occurred in female subjects.

If the hernial sac-contents cannot be manipulated back into the abdominal cavity, the hernia is said to be irreducible, provided that the irreducibility per se does not cause any functional disturbance of the herniated organ or organs, and none or but slight interference with the blood supply thereof. The irreducibility may be recent or of long duration. Partial and complete irreducibility predispose to inflammation, obstruction and strangulation. Irreducibility is either of sudden or gradual onset. We noted fifty-eight irreducible vesical hernias, twenty-one of which occurred in females.

If communication between the herniated and the non-herniated portion of the bladder be more or less interfered with, the urinary bladder being transformed, in some instances, into a bisac, the hernia is said to be obstructed.

If, in addition to irreducibility of the sac-contents, the blood supply of the herniated organ or organs is interfered with to such a degree that their vitality is endangered or lost, the hernia is said to be strangulated. Strangulation may follow a paroxysm of cough, heavy lifting, a fall, any strong muscular effort associated with great sudden increase of intra-abdominal pressure. There were twenty-two strangulated hernias, eleven of which occurred in females. In some cases the hernia of the bladder exists alone and becomes strangulated. In some of these strangulated cases the vesical hernia was associated with an enterocele, an epiplocele or an entero-epiplocele, the bladder was not constricted and the herniated omentum or intestine or both were strangulated. In others, the bladder was strangulated and the herniated omentum, intestine or both were not constricted. Bladder-wall offers more resistance to constriction than intestine. Strangulation of the bladder is especially grave if renal disease coexists.



### Etiology

The etiology of these hernias is largely the etiology of hernias in general. In the causation of this pathological lesion, the following factors are of importance:

A. All conditions that tend to increase intra-abdominal pressure.

1. Occupations necessitating repeated muscular efforts associated with increased intra-abdominal tension, as the lifting or pushing of heavy weights, etc. (over twenty cases in our series).

2. Physiological or pathological states which distend the abdominal cavity, stretching the abdominal parietes, and widening the orifices normally present in the muscular and aponeurotic layers of the abdominal wall (enteroptosis, obesity, abdominal tumors, ascites, pregnancy, etc.).

3. All diseases associated with frequently repeated increase of intra-abdominal pressure (long-standing lung affection, pulmonary emphysema, chronic bronchitis, habitual constipation, etc.).

B. All conditions which weaken the abdominal wall.

1. Acute or chronic diseases debilitating the organism, especially such as cause great emaciation.

2. Obesity weakens the abdominal wall and increases the intra-abdominal pressure.

3. Traumatism. Most often the traumatism does not cause the hernia, but only reveals its existence (abdominal operations). Pathologic adhesions of viscera or omentum to the anterior parietal peritoneal wall near a hernia opening may act as a predisposing cause.

4. Previous hernia operations.

5. Enteroceles, epiploceles and entero-epiploceles.

6. Feeble development or atrophy of the aponeurosis of the transversalis muscle and of the conjoined tendon. This factor is of great importance in direct inguinal hernia.

7. Unduly large hernial rings.

8. Excessive breadth of hernial canal.

9. Congenital defects present in abdominal wall.

10. Inherited or acquired weakness of abdominal wall.

11. Pre-existing hernial sacs of pre- and post-natal formation.

C. All conditions associated with prolonged over-distention, over-stretching, impaired contractility, restricted mobility, etc., of the urinary bladder.

1. Congenital malformations of the bladder.
2. Diseases of the lower urinary organs, impairing the expulsive force of the bladder or abnormally hindering the outflow of urine (vesical catarrh, prostatic hypertrophy, urethral stricture, phimosis, etc.).
3. Abnormal increase of the peri-vesical fatty connective tissue (lipome pré-vésical).

### Symptomatology

Hernias of the urinary bladder are congenital or acquired, recent or recurrent, and of greater or shorter standing. They vary in shape, volume, rate of growth and in amount of discomfort and disability entailed. Occasionally they occur at the site of a previous hernia operation.

Hernia of the bladder is usually an acquired condition. It occurs most commonly in late adult life and is, not infrequently, secondary to pelvic, vesical and urethral diseases. Twenty-seven patients presented direct inguinal hernias. Direct inguinal hernias are said to always be acquired hernias. Forty-two patients presented femoral hernias. All these femoral hernias, except one case, that of a five-year-old female child and reported by the author to be an acquired hernia, first became manifest in adult life. Congenital femoral hernias are pathological rarities. Femoral hernia is essentially a hernia of adult life. Congenital hernias appear at all periods of life. Even at the time of operation, one may be unable to differentiate between a sac of pre-natal and one of post-natal formation.

Size is variable. A few of the reported hernias simply pointed; the others ranged in size from that of a hazelnut to that of a man's head. In many, the hernial swelling is merely stated to have been large, voluminous.

The hernial swelling may be cylindrical, ovoid, elongated-ovoid; it may be grooved or bi-lobed, soft, elastic and fluctuating or hard and non-elastic. The hernial swelling may be a large, tense, smooth tumor, may occupy the scrotum, may extend as far as the middle of the femur, may occupy an entire labium, thereby distorting the vaginal opening.



The volume of a hernia is liable to rapid and considerable change, being influenced by clinical type of hernia, position of body, amount of urine present in bladder, etc. The hernial swelling gives a dull or tympanitic percussion note.

Pain is an inconstant symptom. Ten of the reported cases are said to have been painless.

Diverse urinary disturbances (subjective and objective) may be present. These disturbances may be occasional or constant. Patient, in order to urinate, may find it necessary to elevate or to compress the scrotum and its contents, or to, both, elevate and compress the scrotal contents. These patients sometimes resort to unusual positions to empty their bladder: dorsal decubitus. In a few cases, on account of the narrowing or compression of the joining isthmus, considerable difficulty is experienced in emptying the scrotal or labial portion of the bladder into the pelvic portion.

Vesical tenesmus. Pressure upon hernial swelling gives desire to urinate.

Burning on urination.

Frequent, difficult and painful micturition are noted in many cases.

Increase of swelling with accumulation of urine, decrease with voiding.

Two-step urination (miction à deux temps) associated with a simultaneous lessening of the hernial swelling.

The injection of fluid into the bladder causes an increase in size of the hernial swelling. A sound introduced into bladder may enter the herniated bladder-process. A cystoscope introduced into bladder may show the round contour of the normal bladder distorted into T-shape, may show the vesical opening of the herniated bladder-process, etc.

Vesical hernia may exist alone, may be one of two or more hernias, coexisting with a hernia of other organ or organs on the same or opposite side of the body. Other congenital or acquired anomalies may be present: phimosis, ectopia testis inguinalis, cryptorchism, vaginal cystocele, hydrocele, prolapsus uteri, hydrocele of hernial sac, etc.

#### Pathology

In many cases, note is made of excessive breadth of hernial canal, of enlarged hernial rings. The spermatic cord may be to

the outer side of the hernial swelling, may be spread out over the hernial sac, may be behind sac, may be below and external to sac, may be spread out over bladder (anterior and outer surfaces).

To differentiate a hernial sac of pre-natal formation from one of post-natal formation is at times difficult, at times impossible.

Acquired hernial sacs, except in hernias "par glissement," are always entirely derived from the parietal peritoneum.

Sac may be thin or thick, congested and infiltrated, intimately adherent to the spermatic cord, and, not uncommonly, is capped by a thick mass of fatty tissue. An extra-peritoneal bladder hernia has no serous hernial sac.

There may be an unusual amount of fat in the hernial canal. In the extra- and para-peritoneal forms, the herniated bladder-process is frequently covered with fatty tissue, the "lipome herniaire" of the French authors. This pre-vesical accumulation of fatty tissue is thought by many to be an important contributory etiological factor.

In the para-peritoneal hernias, the serous sac is, at one point, intimately adherent to the bladder-wall. In the para- and also in the extra-peritoneal types, if a sac be present, the bladder is always to its inner, to its medial side, and, at times, below. The bladder may be adherent to the hernial sac, may be adherent to the spermatic cord.

Amount of viscus present in hernial swelling may be small, may be large. In some cases the hernial swelling consists solely of the herniated bladder-process and of the increased amount of fatty tissue overlying it; in other cases, fifteen in our series, the hernial swelling consists of a serous hernial sac and of the herniated bladder-process or bladder-diverticulum. In a large number of cases the hernial swelling includes a herniated bladder-process and a distinct or contiguous serous hernial sac with or without sac-contents. The hernial sac-contents may be hernial fluid, a part of right ureter, omentum, small intestine, large intestine, intestine and omentum, small and large intestine.

In the strangulated cases, we note such contents as the following: Hemorrhagic fluid and the bladder; bloody fluid, gut and ovary; a loop of congested intestine and urinary bladder; congested bluish appendix epiploica; reddish-brown fluid, bladder-diverticulum and small intestine.



The wall of the herniated bladder-process may be normal, thinned or thickened. The herniated bladder-process may present the appearance of an empty or of a thickened hernial sac. Its cavity communicates with the cavity of the non-herniated portion of the bladder by means of a wide or narrow channel. It may be the seat of tuberculous disease, of carcinomatous disease. Calculi may be present in the herniated, in the non-herniated, or in both portions of the bladder.

The spermatic cord is sometimes found spread out over the vesical hernia, at times is distinct from it, and often is in close relation with a coexisting enterocele, epiplocele or entero-epiplocele.

### Diagnosis and Differential Diagnosis

The existence of a hernia of the urinary bladder may be ignored, suspected or diagnosed before operation. The diagnosis may first be made at the time of operation, or not before one or more days after operation. Evidence of the bladder having been wounded may not be present until some time after the patient has left the operating table. Eminent clinicians have failed, even in operated cases, to recognize the true state of affairs previous to the autopsy.

Before operation, the following symptoms are suggestive of vesical hernias:

1. Urinary disturbances: dysuria, two-stage urination, frequent urination, scalding urination.
2. A hernial swelling, pressure upon which causes a desire to urinate, and which increases in volume with urinary retention, and markedly diminishes in size with urination.
3. A hernial swelling, the size of which is increased by air or water-distention of the urinary bladder.
4. A hernial swelling in which fluctuation is detected or in which a metallic sound can be introduced by way of the urethra.
5. A hernial swelling, in which, after easy reduction of most of the contents, there persists a small doughy mass representing the extruded part of the bladder.

During the course of a hernia operation, the following symptoms or signs are suggestive of vesical hernias:

1. An unusual amount of fat in the neighborhood of a hernial swelling.

2. Difficulty in finding or in isolating the true hernial sac from the tumor mass.

3. The trabeculated appearance of the bladder muscularis.

4. Large-sized external hernial opening and the fact that hernias of the bladder are usually nearer the median line than true hernial sacs.

5. The occurrence of a second hernial sac is so rare that it is a safe rule to regard as the urinary bladder, until proved otherwise, any structure resembling a second hernial sac.

6. The pedicle of a herniated bladder-process leads down behind the pubic bone into the true pelvis; the pedicle of a true hernial sac leads to the general peritoneal cavity.

Passage of sound into a cystocele, cystoscopic confirmation of its existence, escape of urine following wounding of bladder (thirty-one cases), all these are conclusive signs.

Keep in mind that vesical hernias are frequently associated with intestinal and omental hernias.

Injury of the bladder may not be noticed at the time of operation, and be diagnosed, for the first time, several hours after operation by:

*a.* Voluntary voiding or withdrawal by catheter of blood-stained urine.

*b.* Urine escaping from the hernial operative wound. This is usually preceded by the development and subsequent rupture or incision of a urinary phlegmon.

*c.* Sepsis due to urinary extravasation.

*d.* Peritonitis due to escape of urine into peritoneal cavity.

### Treatment

In discussing the treatment, we will limit ourselves to the consideration of femoral and inguinal hernias.

An operator not on his guard may incise the bladder under the belief that he is opening a hernial sac. In operating upon recurrent hernias, guard against wounding the bladder. If isolation of the hernial sac from the inner lower portion of the ring be difficult, involvement of the bladder is to be suspected. Avoid this injury by securing a good exposure of the operative field. The more exact the stripping of the sac, quite up to the deep epigastric artery, the more likely will cystocele, especially in the earlier stages, be discovered.



Vesical hernias can be produced by traction upon the sac and efforts to place the ligature high up may, if one be careless, result in catching in its bite the bladder-wall.

The bladder was accidentally injured in sixty-eight of the cases under consideration. In thirty-one, urine escaped into the operative field at time of operation.

Should the bladder be incised or otherwise injured, carefully suture it and provide appropriate drainage. Immediate closure of the bladder wound is of primary importance. It is effected by two, in some cases by three layers of interrupted or continuous sutures. Introduce your bladder sutures so as to include all the layers of the bladder wall, the mucosa excepted. Needless to say that only absorbable suture-material is to be employed. Even if the bladder be not opened, but merely injured, it is safer to fortify the weak spot by the introduction of a few catgut sutures.

The herniated urinary bladder-process may be:

*a.* Injured in attempts to carefully and cautiously separate surrounding adhesions. Not only must one be careful as to sac-contents, but also as to contiguous tissues.

*b.* Torn accidentally in trying to separate it from the hernial sac. The herniated bladder-process is more liable to be injured if it be the seat of such changes as are incident to strangulation.

*c.* Punctured or pricked in suturing walls of hernial canal, in closing hernial orifice.

*d.* Incised or ligated and cut off, being mistaken for a hernial sac.

Resection of the herniated bladder-process is indicated only if it be very much attenuated, necrotic or the seat of other serious degenerative changes. Resection is to be followed by suture of the bladder-wound. If a calculus or calculi be present in the bladder protrusion, incise the bladder-wall, remove the foreign body, and repair vesical wound *secundum artem*. As a routine procedure, resection of the bladder protrusion is not to be recommended. It was performed only in twelve of the reported cases.

If the bladder protrusion be apparently normal, free it from surrounding adhesions, if any be present, and then reduce it into the abdomino-pelvic cavity. As a routine procedure, bladder repair, bladder resection and bladder reduction are always to

be supplemented by refection of the abdominal wall. After isolation of the herniated bladder-process, supplemented by the repair of any injury which it may have sustained during the course of the operative procedure, we advise that the bladder be reduced into the abdominal cavity.

Vesical hernias have been successfully operated for radical cure without anesthesia, under local (cocain, infiltration), spinal and general surgical anesthesia: nitrous oxide gas and oxygen, chloroform and ether (the majority of cases).

For inguinal hernias, the Bassini operation, with or without transplantation of the cord, seems to be the operation most universally employed; it was employed forty-one times. Czerny's, Andrews', Ferguson's, Halsted's and Kocher's type of operation were each employed once. Numerous other methods were employed. Various types of operations were employed in the femoral hernias (Berger, Coley, Lotheissen's operations, etc.). Some operators closed the hernial sac by a ligature, others by a purse-string suture, others by suturing the edges. In eighteen cases, it is stated that the hernial canal was freed of fatty tissue.

In all the cases in which the herniated bladder-process was not injured, in practically all those cases in which it was injured and repaired or resected and sutured, the organ, after being freed from surrounding adhesions, was returned into the abdominal cavity. Bernhard, in one case, after suturing the bladder, fixed it to the lower angle of the abdominal wound.

Operators are not agreed as to the advisability of using a permanent catheter after bladder suture, nor as to the time during which this permanent catheter, if used, should be left in the bladder. Some leave it in one day, some two days, some three days, some four days, some five days, some six days, some one week, some two weeks.

Drainage extending to the bladder wound is a prudent provision against leakage from the sutured bladder. Many operators prefer, after bladder suture, to leave the abdominal wound open at its lower angle, and to close it as soon as conditions warrant.

If the hernial swelling contains, in addition to a bladder-process, a knuckle of gut, a piece of omentum or some other viscus, the indication is to first free and reduce the bladder-process, and then carefully isolate, reduce or resect, if indicated,



the other hernial contents. In the absence of contra-indications, all hernial sac-contents, sac-fluid excepted, are to be returned into the cavity from which they have escaped.

A deviation from this rule is indicated in cases:

*a.* In which herniated omentum has undergone such inflammatory, cystic or other changes, that, if returned into the abdominal cavity, it might act as a foreign body.

*b.* In which the herniated gut or omentum is gangrenous or of doubtful viability.

*c.* In which the hernial contents are in such a pathological state that their return to the abdominal cavity would jeopardize the patient's life.

The treatment of the sac-contents does not differ from that which obtains in hernial swellings in which no bladder-process is present; if those contents are injured by the surgeon, the injury calls for repair.

### Results

Operations for the radical cure of vesical hernias have practically no mortality. What mortality occurs is due either to concomitant circumstances: extreme old age, great debility, shock, long-standing strangulation and unrecognized bladder injuries.

One of these hernias was a dissecting-room discovery; this leaves one hundred and sixty-three hernias occurring in one hundred and fifty-eight subjects. There were twelve deaths; all the other patients recovered.

Operations for the radical cure of vesical hernias are rarely followed by disagreeable sequelae. In thirteen cases, a urinary fistula complicated convalescence. These urinary fistulae usually close spontaneously. One can, if he so desires, close these fistulae under cocain anesthesia.

A careful study of the cases in which death occurred shows that operations for the radical cure of vesical hernias have no mortality per se, if all bladder injuries be suitably repaired. In bladder hernias, recognized either previous to or at time of operation, before closure of the abdominal wound, recovery is rapid and uneventful.

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## CLEVELAND REMINISCENCES

By H. F. BIGGAR, M. D.

*Some of the incidents which have come to my knowledge personally and otherwise, during the '60's and '70's, and from history of the '50's.*

Forty or fifty years ago the length of a term of tuition in the medical college was sixteen weeks and only two terms were deemed necessary. Requirements for matriculation were to sign the register, pay the fee in cash or by note, and present a certificate of good moral character from the student's preceptor; no examination of scholastic attainments was required. The duties of the student to preceptor consisted of cleaning and caring for the doctor's horse, sweeping out the office, scrubbing the same when necessary, washing the windows, keeping the books and collecting the accounts; all for his board and washing, with the privilege of sleeping in the office, the use of the medical books and profiting by the clinical experience of office patients. If the student was well-to-do financially the preceptor was paid one or two hundred dollars, in which event he was not expected to do the drudgery work, as were the poor students who had not such financial backing.

College professors sometimes showed their proverbial tact, as was seen in an entertaining debate that took place before the medical students in one of the colleges. The question under debate was whether or not chloroform should be used in obstetrics during the pangs of labor. The debaters were the professor of obstetrics and the professor of physiology. The professor of obstetrics was opposed to chloroform, the physiology professor advocated its use. The decision was a draw, like the Scotch verdict, not proven.

All emergencies were cared for and operated upon at the surgeon's office or the patient's home. This was before Charity Hospital, the first of the public hospitals in Cleveland, was built. There was no ambulance system; this was introduced later. Emergency patients were carted around on express wagons or in hacks from the place of accident to the surgeon's office or to their homes. Instances have been known where the injured were left at the surgeon's office, and, before the surgeon arrived to care for the patient, another surgeon (having heard of the accident) would have the patient clandestinely removed to his own office for at-



tention. There was great strife to secure railroad surgery, not that the emolument amounted to so much, but the experience was everything, as well as the honor.

An unusual and unethical proceeding to secure low rates was in evidence; a railroad company advertised for contracts to care for its injured—there might be good and bad among the competitors, the lowest priced secured the appointment. His fees were as follows: Amputation of thigh, fifteen dollars; amputation of arm, seven dollars; surgical dressings, fifty cents. His low bid and his association with secret orders secured the coveted honor as railroad surgeon for one competitor, but in this particular instance he did not retain the position the third year, as he proved incompetent.

The telephone was not in vogue till the middle of the '70's. Some of the doctors had a large visiting list, making from 20 to 30 or more visits a day—besides attending to quite a number of office patients, even when the horse and buggy was the vehicle for making calls. The income of some doctors was quite large, even though the fee for obstetrics was only five to ten dollars, including three additional postpartum visits; office prescriptions were fifty cents to one dollar, and visits two dollars.

In those days graveyards were visited by medical students for bodies for dissection, there not being the same disposition of the unclaimed dead then as now, and the colleges were not well supplied. Rather an amusing incident occurred when the students of rival colleges were after the same subject—it indeed was a *grave* question. One "gang" was secreted in the cemetery and kept close watch on the other gang and when the latter was about ready to remove the corpse from the grave the members of the secreted gang separated in different part of the cemetery, would simultaneously make their presence known by hallooing and other pronounced demonstrations. Thus frightened, the hard workers, thinking the disturbers were policemen, ran away, leaving the body, which the opposing gang seized, then filled the grave again, demonstrating the truth of the assertion that "the fruits of the spoils belong to the victors."

Those were days when accident cases were generally operated in offices, when sanitary and aseptic conditions were not very pristine, and as a result of thorough asepticism what we term "laudable pus" frequently followed operations, this being always regarded as a favorable symptom for recovery. Some surgeons

during an operation did not hesitate to hold the scalpel in the mouth when both hands were otherwise engaged. The hands were merely washed with soap and water. Sponges were the sponges of commerce and after operating were washed, dried and ready for use again. Alpaca operating coats were worn during the operation and very seldom cleansed.

Doctor Jas. R. Wood, then a leading New York surgeon, always operated in a frock coat, and in Paris Doctor Mundè operated in a dress coat with the shirt sleeves turned back.

In these times abscesses or cysts from the liver were treated by external application. The escharotic usually was Vienna paste for the purpose of creating an inflammation which would cause the cysts to adhere to the peritoneum. The incision was made through the adhesions and the contents of the abscesses emptied, thus protecting the peritoneum.

The A. C. E. mixture was the favorite anesthetic and during the latter part of the '60's and '70's when blood poisoning and erysipelas followed operations it was usually attributed to atmospheric conditions.

The doctors were then not any more friendly and loving to each other than at the present time, as the following case will explain—the incident occurred in the early '60's as follows: A lad of twelve had his legs crushed by the wheels of a freight car passing over them. The railroad surgeon was called to attend him, and had his instruments ready to operate. A rival surgeon was called and when he saw that the other surgeon was about to operate on the lad, who was still in severe shock, remonstrated and said: "You surely are not going to operate while in the shock!" Angry words were exchanged. Matters became serious and so near to a free fight and shedding of blood that catlins were drawn. The father of the boy, becoming alarmed at the hostile attitude of the surgeons, dismissed them both and called in another surgeon. The boy died—no operation. At that time it was a question among some surgeons whether to operate during the shock or wait till consciousness was restored.

Many mal-practice suits were in the courts, instigated by opposing physicians or surgeons. A poor Irish woman had a bad compound and comminuted fracture of the right leg. Six doctors had previously been called to the patient's home and each refused to take charge, fearing it might lead to mal-practice. A very charitable lady placed the injured woman in a hospital.



Before the hospital surgeon would assume the responsibility he had her priest present when she promised that she would be satisfied with the results, whether good or bad. It was a very discouraging case not only from the extent of the injuries but the delay of four days from the time of the accident. Fortunately, results were good.

In the early days the surgeon was also a physician. The specialist was an evolution from general practice and was the better specialist for having been a general medical practitioner.

A laparotomy or caesarean section was a rare instance. In ovariectomies the pedicles were treated on the outside by means of clamps, and later they were ligated and dropped within the abdomen with the ligature on the outside. In hysterectomies many were the devices of clamps for securing the stumps on the outside of the abdomen and in vaginal hysterectomies ingenious but very cumbersome were the devices for the clamping. Broad ligaments with the handles of the forceps protruding through the vaginal outlet was the custom.

Among the leading physicians at that time were Doctors Dellenbaugh, J. C. Sanders, J. P. Kirkland, John Delamater, S. R. and D. H. Beckwith, Erastus Cushing and Nathaniel Schneider. Doctor Cushing, the grandfather of Doctors Edward and Harvey Cushing, was a very much beloved physician, very generous in his benefactions—many a poor person receiving his gratuities. Doctor J. P. Kirkland was very devoted to his profession during his earlier years of practice; in later years he left it and specialized in botanizing and the culture of bees. The old stone house on Detroit street where he resided is still standing. The Doctor was a great lover of Audubon and in his own room hung a rare painting of this great naturalist.

Among the local contemporaries of the great naturalist was Doctor Theodatus Garlick, a man of remarkably versatile talents, who gained success in every line of endeavor he attempted. The following tribute is from Mr. W. H. Rose in the Plain Dealer:

“His life reads like a romance. Born on a Vermont farm in 1805, he came to Cleveland in 1819, and his first task was cutting inscriptions on tombstones for the only local dealer. Business being dull, the boy devoted his time between cuttings to a better acquaintance with nature. Then it was decided to make him a doctor, but the medical profession had great difficulty in overcoming his artistic instinct. He modeled busts in wax of his

professional associates, and when he heard of Daguerre's discovery in photography he fixed up a process of his own and "took" his friends on silvered brass plates. Then he turned his attention to modeling parts of the human body, showing such unusual skill that Doctor Ackley, head of his profession, sought him out and offered him a partnership in 1853. He became an expert botanist and zoologist, and when he learned that two Frenchmen in the Vosges were raising trout by artificial breeding he and Doctor Ackley began experiments which led to hatcheries in this country. Here was a man of marvelous activities, whose thirst for knowledge could not be appeased. At the age of 73 he took up the study of Greek and soon could read the New Testament in that tongue.

"While an invalid and unable to walk, he devoted his time to sculpture, leaving a number of admirable examples of his self-taught skill.

"This remarkable man died in Bedford, December 9, 1884."

Doctor W. J. Scott, a later comer much devoted to his profession, would rather sit by the bedside of some interesting pathological case, preferably a poor patient, than keep his office hours, though his office was filled with waiting patients. He was a close student of the collateral sciences.

Doctor John Wheeler, a former president of the Homeopathic College, was a most courtly and venerable gentleman. His office was on the Square and during his morning hours he tied his horse on the curb; he always gave him an apple before starting off.

Doctor J. C. Sanders was the obstetrician of the Homeopathic College; his lectures were always able and scholarly. He was refined in manner and most gentlemanly in his bearing. With his cape tippet overcoat, long hair and flowing beard and moustache, and withal his classical features, he reminded one of Longfellow's profile in the Evangeline edition. He was very fond of poetry and often recited beautiful and apropos selections to the students.

Doctor D. H. Beckwith was a very popular physician, had a large clientele and was generally loved by his many patients. He was an excellent judge and a great lover of horses.

Among the surgeons were: Doctors Ackley, Weber, Strong, Story, Thayer, S. R. Beckwith and Nathaniel Schneider.

Doctor Ackley was a famous surgeon during the '50's and



'60's, whose reputation extended through the Western Reserve. He had an enviable reputation not only as a surgeon but as a skillful carver of roasts and game as well. His guests were delighted to see him carve a turkey or roast joint. It was said that he could carve a turkey without removing the fork after its first insertion.

Doctor Strong was a graduate of Trinity College, Dublin, which honor he never failed to mention in giving testimony in court. Needless to say, he and Doctor Ackley became very popular with the loyal, warm-hearted Irish.

Doctor Thayer was much sought after as a medical expert; he was not only well informed but very positive in his statements.

Doctor Weber, an accomplished gentleman of rare culture, was born of aristocratic parentage; to this beneficial advantage was added the reflected fame of his father, who was an anatomist and pathologist of renown. Doctor Weber was very skillful in his work; through his influence and association Charity Hospital was built, and largely through his efforts was built also the Western Reserve Medical College, now at the corner of St. Clair and E. Ninth streets.

Among many of his wonderful operations was the removal of a tumor from the larynx. The wealthy patient sought the advice of some of the leading European surgeons, among them the great Langenback, all of whom declined to operate. The patient returned to this country, consulted Doctor Weber, who successfully removed the growth, for which he received and at that time a large fee—\$1,250. He was not only a famous surgeon, but a most excellent physician.

In the early '60's Doctor S. R. Beckwith did what was then considered a very wonderful operation—the amputation of the shoulder joint, including the scapula. He was also successful as an ovariologist. In the early '70's Doctor Nathaniel Schneider operated successfully for a double ovariectomy. This operation was performed at the house of the patient on Broadway. Everything was as aseptic as possible; it was before asepsis was introduced. The doctor did a masterful piece of work in a case of epilepsy in the early '70's, where the diagnosis of the case was given as resulting from a tumor of the brain. The patient had suffered from epilepsy for four years. Sight of right eye impaired. A diagnosis of the tumor of the frontal lobe, behind the right eye, was made, which was confirmed by operation, there

being removed a hard tumor as large as a hickory nut, which was situated just beneath the brain coverings. This case is remarkable for the correct diagnosis, since it occurred before asepsis was introduced and brain localization was perfected. The result of the operation was successful.

At Macedonia the doctor amputated both legs of a patient whose legs were cut off by a mowing machine. This success gave him a great reputation in that locality.

Doctor M. Y. Turrill was a skillful obstetrician whose skill was sought after in this and other States. His son, Doctor Geo. F. Turrill as an anatomist was very interesting and most popular, not only with the profession but with the laity, who used to flock to hear his lectures.

Doctor Atlee, of Philadelphia, recorded 250 or 300 operations and came here for removal of an abdominal tumor. It was diagnosed as an ovarian cyst, but found to be a uterine fibroid—patient lived three days. The doctor was then writing his work on abdominal tumors and was asked when it would be published. He replied, when he could tell from the outside of the abdomen what was inside.

Doctor Dunlap, of Dayton, had performed 250 or upwards laparotomies—thought to be a large number, but now we have some few who have performed 2,500 and one upwards of 10,000 laparotomies.

Doctor Elisha Sterling among the surgeons had many advantages. He spent a few years in Paris attending the clinics of leading surgeons of the day. Returned to Cleveland fully equipped and would have been a shining light if he had devoted his time to his profession, but his tastes inclined to scientific subjects. He was an expert Isaac Walton.

Doctor Sargent was a very peculiar character, a bachelor living in his office on the corner of what were then Erie and Chestnut streets. He was a member of the Union Club and was so opposed to homeopathy that when Doctor Nathaniel Schneider was elected a member of the club he resigned. Homeopathy in those days received great opposition—the leading medical men refused to consult with homeopaths.

At a later date another odd and interesting character was Doctor L. W. Sapp, who had installed in his office a telephone instrument with which he said that he had direct communication with the spirit land and that his consultations were with a very



popular physician who when on earth lived in Brooklyn, N. Y. It was surprising how many intelligent citizens and others became patients of the doctor, desiring to have their cases diagnosed and treated through the departed spirit with the aid of the instrument. His practice by mail was extensive; letters were received from all parts of the world—yet when the doctor's wife was fatally sick another physician was called in consultation.

The Homeopathic College, located in the upper rooms in the building at the corner of Prospect and Ontario streets, was attacked by a mob of citizens and fairly ravaged on February 22nd, 1851. The offence was the finding of a body in the dissecting room alleged to have been stolen from a Cleveland cemetery.

Mr. J. H. Wade, the grandfather of the present Mr. J. H. Wade, during the early '80's was very solicitous to establish a medical college which taught all systems of medicine, including all adjuvants pertaining, such as massage, electricity, hydropathy, etc., and proposed to endow the college with \$1,000,000 and locate it at Wade Park. While the project was under way Mr. Wade died and no provision was made in his will for the endowment.

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### TEMPERATURE VARIATIONS

It has long been recognized that man's highest achievements have been made in the variable climate of the north temperature zone. Indeed, if the fortieth parallel of north latitude be traced around the globe, it will be found that practically all the great centers of human achievement were situated not far away from it. Athens, Constantinople, Naples, Rome, Florence, Paris, Vienna, Berlin, London, New York, Chicago, St. Louis, San Francisco, Tokyo and Peking, as well as Jerusalem, Carthage, Sidon, Tyre, Memphis and Babylon were all situated within about 10 degrees of this magic line. Almost needless to say, this is the line of greatest variation in temperature. It would seem, then, as though the conclusion as to man's efficiency under circumstances in which he is subjected to considerable daily, monthly and yearly variations of temperature must be accepted.

This represents an almost absolute contradiction of some of the ideas, often accepted even by physicians, with regard to the relation of comfort in nonvariable temperatures to efficiency and helpfulness. It also suggests a pause in the medical practice of sending invalids to a mild climate during the winter unless they are of such delicate constitution, or so run down in health, that they cannot stand the cold because they have not the vitality to furnish a good reaction to bracing cold air. Consumptives are often comfortable in a mild unvarying temperature, as in our own South or on the Riviera or the North African Coast, but the general agreement is that they do not make satisfactory progress against their disease. The same thing would seem to be true as regards neurasthenics and semi-invalids. The bracing tonic qualities of a northern winter in a dry climate under proper safeguards will probably do them more good, though at times they will be less comfortable than they would be in a warm southern atmosphere.—*The Journal of the American Medical Association.* -

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## REVIEW OF THE PROGRESS OF MEDICINE

By HAROLD FEIL, M. D., Cleveland

*Recent Advances in the Methods of Examination of Gastric and Duodenal Contents.*

A noteworthy contribution to the methods used in the examination of gastric contents is the work of Rehfuss<sup>1-9</sup> and his co-workers. The obvious uncertainty and questionable value of the examination of single one-hour specimens after a test breakfast caused Rehfuss to modify the Einhorn duodenal tube in his use of it as a gastric tube. This he did by making the olive of heavy metal and cutting slits in its sides whose width represents the maximum bore of the rubber tubing. The tube is readily passed and may be retained by most individuals for an indefinite period. Through its use he made the following observations: (1)<sup>6</sup> that the normal fasting stomach contains an active gastric juice, the average amount in one hundred normal students was 52.14 cc. Both colorless and bilge-tinged specimens were obtained. Free HCl averaged 18.5, and total acid averaged 29.9. A rather wide range of each was found. (2)<sup>8</sup> that there are three arbitrary curves in normal individuals, the classification being on the basis of the time when acidity reaches its maximum. (3)<sup>5</sup> that the protein content is of "very low degree." The acid and protein curves are very nearly parallel. (4) that curves can be constructed from readings taken at 15 minute intervals both in the fasting stomach and after a test meal. In gastric ulcer a hyperacidity reaching its maximum at the end of the digestive period is found. In duodenal ulcer a hyperacidity of less degree is seen with the apex of the curve 30 to 45 minutes after the meal. In confirmation of the X-ray examination rapid emptying occurs. The reviewer has used this method for the past year in the dispensary of Lakeside Hospital and the duodenal tube has supplanted the larger tube to a great extent in the wards. The various chemical tests which have been suggested for gastric contents may be used in conjunction with this method.

*Wolff-Junghan's Test for Gastric Cancer*<sup>12</sup>: The albumen content of the gastric fluid after a test-meal is estimated by layering serial dilutions of the fluid with the phosphotungstic acid reagent. An increase of the albumen in the absence of free hydrochloric acid is held suggestive of cancer. If free HCl is



present, a great increase of the albumen is a suspicious sign. The test is not valid in the presence of blood. Like all other methods in testing the gastric chemistry, it is not infallible and can only be considered with the other methods.

*Acidity Determinations of Gastric Juice:* Seidel<sup>13</sup> demonstrated that the unfiltered contents after a test breakfast gave a higher acidity than did the filtrate. Therefore he advises the use of the unfiltered, but thoroughly mixed contents. If the amount of fluid is great, this can be poured off and the acid determined in the well mixed sediment.

*Mintz' Beef Extract Test Breakfast*<sup>14</sup>: The meal consists of 5 gms. of Liebig's meat extract dissolved in 200 cc. of water. Skaller<sup>15</sup> adds 25 drops of 1 per cent alcoholic solution of phenolphthalein to it so that gastric motility can be readily determined. Boas advocated the addition of chlorophyll to determine the latter. Pawlow showed that meat extract stimulated the gastric glands to their maximum. The advantages of this test breakfast are evident. The gastric cycle after drinking the Mintz' preparation takes about 45 minutes, and specimens should be taken at five-minute intervals in order to construct an accurate curve.

*Gluzinski's*<sup>16</sup> *Method of Differential Diagnosis:* The gastric contents are tested before and after a test breakfast. Normally there is an increase of both free HCl and total acid p. c. In carcinoma of the stomach, with diminution of the secretion, both free and total acid are less after the meal. This method endeavors to differentiate the benign from the malignant achylas. Here it may serve some purpose. It is valueless in differentiating ulcer from carcinoma developing on an old ulcer. Ehrenreich has written on this subject. In 12 cases of pernicious anaemia examined by Doctor Robinson, all showed lessened acid value after the test meal. In two cases of Graves' disease seen recently by the reviewer the acidity was less after eating. In light of the work of Zoeppritz, Robinson, and work at the Lakeside dispensary, this method is of but limited value.

*Microscopic Examination of Contents of Fasting Stomach:* Caussade<sup>17</sup> and other French authors give much weight to the microscopic findings in various gastric conditions. They illustrate their work with drawings of the cellular elements found in normal and pathological states.

*Examination of Duodenal Contents:* Of more value is the examination of the duodenal contents. Gross<sup>18</sup> in an excellent article describes the physical properties of the contents at the different levels, pylorus, first part of duodenum, at the papilla, and beyond. "When the mark 45 cm. is reached (5 cm. distal to the cardia) the patient is put on the right side and the tube is swallowed until the 70 cm. mark is reached (10 cm. distal to the pylorus)." In 15 to 20 minutes, at times longer, duodenal juice may be aspirated. The fluid just distal to the pylorus is cloudy, yellowish, and acid in reaction. The cloud results from the precipitation of bile pigment and clears up normally on neutralization of the acid. Beyond, the fluid becomes darker in color and neutral or alkaline in reaction. Cloudy duodenal fluid, even after neutralization, is suggestive of gall-bladder disease. Einhorn<sup>19</sup> examined the duodenal contents of 13 patients who were later operated. Eight had stone in the bile tract. "One of the latter showed clear bile, while the other seven presented a turbid state of the duodenal fluid. Five of the patients operated on, with turbid bile, had no stones; two of these had malignant tumors, one of the liver, the other of the stomach and pancreas. One had tuberculous peritonitis and adhesions over the gall-bladder, one chronic appendicitis, and one hour-glass contraction of the duodenum below Vater's papilla." Bondi confirmed one case of cholecystitis by finding bile-stained pus cells in the duodenal contents. Robinson working at Lakeside Hospital found the same in 11 cases of gall-bladder disease. In 5 cases of gall-stones rather large fragments of precipitated bile pigment were found microscopically by Robinson and the reviewer.

#### Bibliography

1. Rehfuss: *Am. J. Med. Sci.*, 1914, CXLVII, 848.
2. Rehfuss: *N. York M. J.*, 1914, C, 374.
3. Rehfuss: *J. Biol. Chem.*, 1914, XIX, 345.
4. Rehfuss: *J. Am. Med. Assoc.*, 1914, LXIII, 2088.
5. Rehfuss: *J. Am. Med. Assoc.*, 1915, LXIV, 1737.
6. Rehfuss: *J. Am. Med. Assoc.*, 1914, LXIII, 11.
7. Rehfuss: *J. Am. Med. Assoc.*, 1915, LXIV, 569.
8. Rehfuss: *J. Am. Med. Assoc.*, 1914, LXIII, 909.
9. Rehfuss: *Am. J. Med. Sci.*, 1915, CL, 72.
10. Pollock: *So. Calif. Pract.*, 1915, XXX, 231.
11. Pollock: *Calif. State J. of Med.*, 1915, XIII, 271.
12. Wolff: *Magen und Darmkrankheiten*, Berlin, 1912, 217.
13. Seidl: *Archiv. f. Verd. Krank.*, 1915, XXI, 196.
14. Mintz: *Deut. Archiv. f. klin. med.*, 1911, CIV, 481.
15. Skaller: *Berl. klin. Woch.*, 1915, LII, 105.
16. Nicolaysen: *Ann. Surg.*, 1914, LIX, 821.
17. Caussade: *Rev. de Med.*, 1914, XXXIV, 428.
18. Gross: *Wien. klin. Woch.*, 1912, XXV, 1527.
19. Einhorn: *J. Am. Med. Assoc.*, 1916, LXVI, 1908.



## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

**The Wassermann Reaction in Pregnancy:** The importance of syphilis in pregnancy is a subject not yet given adequate attention. There is no other condition or state in which the disease is so effectively masked or in which it causes such disaster. Williams and Slemmons, most careful investigators, attribute 30 per cent of the deaths of new-born children in their clinics to syphilis, and they admit that many others probably escape detection during the first two weeks of life, only to develop symptoms and die of the congenitally acquired disease at a later date.

Where, as during the pregnant state, a suggestive history is so difficult to obtain, due partly to misleading answers by the patient or her husband and partly to the frequent absence of symptoms, the Wassermann reaction is of the greatest aid, though it must be carefully interpreted. As is well understood the reaction is at no time infallible, and recently variations greater than generally met with have been encountered in the results from pregnant women and new-born children.

Albert M. Judd (*Am. Jour. Med. Sciences*, 1916, CLI, 836) presents some interesting facts gained from the study of 892 Wassermann done as routine on pregnant women and newborn children. Of the 892 tests, 7.9 per cent were positive. Most of the cases giving positive tests had no symptoms and would have been overlooked without it. The percentage of positive cases varied with the period of the disease. Where the lesion was present less than two weeks the results were usually negative, whereas if the sore had been present for four weeks or longer, it was positive in 75 per cent. Secondary syphilis gave a positive test in 90 per cent, and tertiary in 75 per cent of the cases. Syphilis in the latent untreated cases without symptoms, gives positive results in 75 per cent of the cases and these would usually be overlooked without this diagnostic aid.

Many observers concur in the view that a negative reaction is at no time of such diagnostic value as is a positive reaction, and this is particularly true not only of women during pregnancy but

of newborn children who may have negative reactions at birth and strongly positive tests after several weeks.

Treatment of the mother during pregnancy frequently gives a negative reaction in the child, but the child, as stated above, may be syphilitic, and if so, will infect a healthy wet nurse.

Of Judd's 277 examinations of the newborn, none of which showed any signs of syphilis at birth, there were 12 positives. All children showing signs of the diseases are usually positive. The test is best done on the mother sometime before labour, as anaesthetics not infrequently give rise to erroneous results. For the children, the third or fourth week of life is a very advantageous period unless symptoms develop before which arouse one's suspicion.

The examination of the maternal blood may be summarized as follows:

1. The mother may be positive and the child negative.
2. The mother may be negative and the child positive.
3. Both mother and child may be positive.
4. Both mother and child may be negative.
5. The mother may be doubtful and the child positive.

As to treatment, it should be begun and vigorously pursued as soon as a diagnosis is made. Treatment of the mother before labour is immensely beneficial to the child in utero, and if either are positive after labour, both should be treated. A woman bearing a syphilitic child is always syphilitic whether her Wassermann be positive or negative. A non-infected child may be born by a syphilitic woman if her disease is of long standing, though the child is usually infected and should always receive treatment irrespective of its Wassermann reaction, for if by chance it is free of the disease at birth, it will very likely acquire the infection if nursed by its mother.

**Uterine Hemorrhage:** Abnormal uterine bleeding is not an uncommon symptom, and although in many cases it is extremely helpful in drawing one's attention to an aetiological pathological condition, there is probably no other single symptom which so often leads to a mistaken diagnosis or frequent operative procedures by which the patient is not improved. The subject is one which has lately undergone considerable revision, a comprehensive review of which is clearly expressed by Palmer Findley (*Surg., Gyn. and Obst.*, 1916, XXII, 233 abstr.).



A study of uterine hemorrhage and co-existing pathological anatomical conditions, leads to a general classification of this symptom under three main headings. First, when associated with marked anatomical changes such as cancer and fibroids, where bleeding occurs between the menstrual periods. Second, where the lesion lies in the uterus or appendages, but where the bleeding is dependent on the menstrual flow. Lastly, where abnormal bleeding is seen at, or between the menstrual periods, but no demonstrable lesion of the pelvic organs is found.

It was formerly believed that various changes in the endometrium were responsible for irregular bleeding, but Hitschmann, Adler, Novak and others have clearly demonstrated that hypertrophy, hyperplasia, etc., are but normal findings, depending upon at what stage of the menstrual cycle the tissue is examined, since this mucosa undergoes perfectly definite morphological change from month to month, and it is generally accepted now that the endometrium has but little influence in creating uterine bleeding.

Of much more importance than the condition of the endometrium is the function of the ductless glands. We are aware that menstruation is directly dependent upon ovarian secretion, and we have reason to believe that any material alteration in this secretion markedly influences menstruation. Since with disturbance of function of other ductless glands such as thyroid, hypophysis, adrenal, etc., menstruation may exhibit pronounced changes, it is plausible that the secretion of these glands in some way modifies that of the ovary, or, that they all being under control of the autonomic nervous system, what affects one will to a varying degree affect the others. Bearing out such an hypothesis is the fact that the administration of thyroid, pituitrin, etc., in some cases where these glands are known to be abnormal, in others supposedly normal, but where no anatomical or histological abnormality can be found, will completely eliminate or greatly improve the existing abnormality of the menstrual function.

In some cases of menorrhagia and metrorrhagia the coagulation time is increased, due possibly to defects in the calcium metabolism and improvement follows the administration of calcium salts, preferably the lactate, or, in other cases, by the injection of horse serum or preferably human serum.

Syphilis with specific sclerosis of the blood vessels is sometimes found to be the cause of profuse uterine bleeding which yields satisfactorily to antisyphilitic treatment. Arterio-sclerosis is not infrequently assigned as the aetiological factor in uterine bleeding, but it is probable that such a condition is rather rare in young women, and that the real factor is one of so-called muscular insufficiency associated with fibrosis, in which the uterus is enlarged and boggy and the muscle fibers though often hypertrophied are separated by an abnormal amount of connective tissue and lack sufficient tone to regulate the blood supply to the endometrium, a congestion resulting with excessive bleeding.

Hitschmann and Adler who have thrown so much light on the cyclic histology of the endometrium do not admit the possibility of uterine hemorrhage unless the ovaries are diseased or function abnormally, excepting in the case of polyps, submucous tumors, mechanical irritation, pregnancy and the puerperal state. Frank has asserted that the menorrhagias and metrorrhagias so often seen with pelvic inflammatory disease are often due to a hyperfunction of the remnants of ovarian tissue not destroyed by the inflammatory processes.

Among other conditions causing bleeding due to congestion and stasis are cardio-renal disease, cirrhoses of the liver, constipation, masturbation and tumors causing stasis by pressure.

The treatment of uterine hemorrhage can be seen to constitute a topic of considerable magnitude and depend upon a thorough examination and correct diagnosis. Digitalis where indicated by the systemic findings, has been found to be of material advantage, as well as in some cases presenting no organic lesions and classed as idiopathic or essential for want of a better name. As previously stated, calcium and human or horse serum are applicable to some few cases. Ergot and pituitrin are found useful in certain types of cases, the former where there is subinvolution and muscular insufficiency, and the latter where the ovarian function may be at fault, especially in the bleeding of puberty, where also thyroid and hypophyseal extracts are not infrequently found to be of advantage.

Curettage will be found ineffective for the majority of cases to which it is frequently applied. The only cases where such a procedure is justified is for the removal of placental remnants



(and here the finger only should be used), the removal of polypi, polypoid endometritis and for diagnosis in suspected malignancy.

Hemorrhage from inoperable carcinoma may be treated by the acetone method of Gellhorn, Percy Cautery, X-rays or radium, the latter of which seems to give the most promising results. Radium and X-rays both will stop hemorrhage due to fibroids and most other conditions by their effect on ovarian secretion. The younger the woman, the greater the necessary dosage, and also the less desirable the effect, as an artificial menopause is frequently the result. By very careful dosage it is possible often to decrease the hemorrhage or eliminate it altogether without effecting a complete and permanent cessation of the menstrual function. The monthly flow may cease for several months and again reappear, the patient never experiencing the unpleasant symptoms of the menopause. Fibroid tumors will, with a dosage of radium or X-rays, depending upon their size, age of the patient, etc., be made to decrease remarkably in size and cease to produce symptoms, and this is unquestionably the method of choice in their treatment in woman near or past the menopause or in poor surgical risks at an earlier age.

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**Liquid Petrolatum.**—The recent increase in the use of liquid petrolatum as a laxative, together with the fact that water-white oils, intended for internal use, are now being largely manufactured in this country, seems to B. T. Brooks, Pittsburgh (*Journal A. M. A.*, Jan. 1, 1916), to warrant a study of the chemical character, properties, mode of manufacture and testing of oils of this kind. The claim has been largely made that the Russian (Baku) oils consist of naphthene hydrocarbons, whereas American oils consist chiefly of carbons of the methane or paraffin series and have not the same properties and should not be used in place of Russian oils. Although the crude petroleums vary greatly in composition, America has great quantities of oil of the same general character as the Russian oils and what is said of the latter equally applies to the former. He gives the chemical compositions of the hydrocarbons contained in petroleum distillates and says there is great need of the adoption of some proper and uniform nomenclature to designate the viscous, water-white tasteless mineral oils passing under the various names. As has been pointed out by Marcusson, most oils of this class contain no paraffin hydrocarbons whatever, being made up of hydrocarbons of the naphthene and polythene class, and the results reported by Doctor Bastedo are confirmed. Brooks suggests that to avoid confusion these oils should be called "white naphthene oils." The promiscuous sale for internal use of the lighter oils with specific gravity under 0.885 is to be condemned, as trouble due to leakage is more common with them. The most important tests in oils of this class are undoubtedly taste, keeping quality and viscosity, but specific gravity tests may be used instead of the latter as being more readily made. As regards taste, Brooks says masticating the oil with ordinary white bread brings out the petroleum taste and enables one to distinguish between oils nearly identical. The keeping quality can be tested by exposure to daylight.

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## EDITORIAL

### FURTHER EFFORT TO REDUCE INFANT MORTALITY

An attempt to prevent the needless summer slaughter of the innocents in Cleveland's poor districts will be made this summer by the Child Hygiene Bureau, Division of Health, and the Babies' Dispensary and Hospital.



At present the Health Commissioner plans to concentrate the work of the 34 nurses of the Child Hygiene Bureau upon the four spots in the city where the infant mortality rate soars highest.

These are the so-called "jungle spots" which have been put upon the map after careful checking and tabulating by Doctor R. G. Perkins, of the Health Division. One is the district southwest of the Erie railway tracks extending almost to Brayton avenue, and from West 4th street to West 19th street. Another is located between Central avenue and Orange avenue and extending practically from East 14th street to East 43d street. The third lies to the southeast of St. Clair avenue, and extends from East 18th street to East 79th street. The fourth lies between Morgana avenue and Lansing avenue, and extends from East 50th street to East 70th street.

It is in these four spots that the toll of the tragic trinity—Poverty, Ignorance and Neglect, runs highest. Of the 2,000 babies that die annually in Cleveland from preventable causes more than half occur during the summer months—and the majority of these in the four districts outlined.

At present nurses of the Child Hygiene Bureau, a pathetically inadequate corps, are struggling to handle a problem that daily grows beyond them. By a vigorous summer campaign with the most of this force concentrated on the city's worst spots it is hoped to get results where they are most needed and at the same time demonstrate that babies' lives in every part of the city can be saved if the Child Hygiene Bureau is furnished with a sufficient force of specially trained physicians and nurses.

### **\$100,000 More to Fight Cancer**

A gratifying addition to America's equipment for the work of wiping out preventable disease is the bequest of \$100,000 from the estate of Emil C. Bondy for research work into the causes, prevention and cure of cancer.

Eventually cancer, which up to recent years has paralyzed the resources of science, will undoubtedly go through the same course as tuberculosis.

Bequests such as the one mentioned above will aid powerfully in curing the terrible disease by the surest and quickest way—by its prevention.

### **Danger for Fly Fighters**

Careless fly fighting may be just as dangerous as no fly fighting—is the latest warning of Doctor Jean Dawson, Chief of the Bureau of Fly Prevention. Doctor Dawson says:

“The living fly carries germs of disease—but the dead fly contains the same germs. Careless handling of dead flies by children or by grown-up “swatters” exposes them to disease and death. In fact, decomposition actually increases the danger from the fly.”

Doctor Dawson is anxious that parents warn children of the danger of careless handling of flies in addition to urging them to swat them.

“Children are extremely careless,” says Doctor Dawson. “In their zeal for killing off the pests they handle the dead flies without thought or knowledge of the danger and then without washing their hands are likely to handle their food. This introduces the germs into their bodies and is almost certain to make them sick. A dead fly is even filthier than the fly alive. The only safe and sensible way of dealing with his diseased corps is to burn it immediately.

### **Help Break the Coughing Habit**

There is a movement on foot to break the coughing habit by demonstrating to the public that it is harmful and useless.

As Doctor Woods Hutchinson points out, sanitariums for tuberculosis have been able to “educate coughing almost out of existence, so that visitors frequently comment on how seldom they hear one of the patients cough.”

Coughing does the consumptive no good whatever and does him much harm by exhausting his strength, breaking his sleep and increasing the danger of ulceration.

If tubercular patients can be broken of the habit, why can't the public in general who haven't as much excuse for coughing?

Did you ever notice in a theater or other place of entertainment that nobody coughs in a highly dramatic or otherwise especially interesting moment?

But have you also noticed that if one person coughs a lot of others do, because of the suggestion and because it's a habit?



Think of the amount of disease, now carelessly spread to others, that could be prevented if people were once broken of the coughing habit.

The highest aim of scientific medicine is the prevention of disease. The duty of the doctor is not only to cure disease but to co-operate with the forces to prevent it.

From Bureau of Health Education, Division of Public Health

R. H. BISHOP, Jr., Commissioner

J. D. HALLIDAY, Chief of Bureau

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**Nonspecific Factors in the Treatment of Disease.**—"There is a growing interest in the scientific investigation of the nonspecific elements in recovery from infectious disease and a close examination of clinical facts suggests that some of the therapeutic effects which have been attributed to action, specific in the sense of Ehrlich, may have resulted from physicochemical changes of a less specific and more general nature. Jobling and Petersen, in *The Journal of the American Medical Association*, review the evidence, both clinical and laboratory, which points to the importance of nonspecific elements in biologic therapeutic reaction, and suggest that in the past we have adhered perhaps too closely to the narrow view of specificity, and have refused to consider evidence of nonspecific therapeutic results, particularly if such observations originate from clinical sources. They then discuss some of the ways in which nonspecific effects become evident clinically by hyperpyrexia, by leukocytosis and by laboratory tests for changes in the serum suggesting the mobilization of ferments. While this discussion is timely a word of caution may not be amiss. While it is probable that much important information will come out of this line of investigation, our present information is meager, and we must not at once cast aside all of our conceptions of specificity in disease, for it is under the guidance of these conceptions that we have made progress up to the present time. Nor does it seem wise to accept clinical evidence alone, as conclusive unless confirmed by many observers under varying conditions.

Miller and Lusk, in the same issue, in a paper dealing with one phase of such nonspecific therapy, report improvement lasting as long as five weeks in patients suffering from arthritis, following intravenous injections of typhoid vaccine. These observations afford an example of what appears to be a favorable nonspecific therapeutic action of foreign protein. It would be of interest, however," says *The Journal* in commenting on the work "to know how permanent the improvement in these patients was and in how many the cause of the arthritis was found and removed. Finally, we must bear in mind the query propounded by Theobald Smith in another connection: how much energy does a reaction of this sort cost the patient, and is the final result worth the cost?"

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**Kankakee Hospital Development.**—Richard Dewey, Wauwatosa, Wis. (*Journal A. M. A.*, June 10, 1916), gives an account of the founding and development of the Kankakee State Hospital for the insane, which he considers a sort of a landmark of progress in the care of the insane in this country. The cottage plan reduces the primary cost of the institutions and, though apparently a radical departure from the approved methods at the time, seems to have met all the needs fairly well and has been copied in other states to a considerable extent. Much credit, he says, must be given to the Rev. F. H. Wines, who for a long time was the secretary and moving spirit of the board of charities of the state of Illinois.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Pneumonia:** Solomon Solis-Cohen, in the *New York Medical Journal* for June 3, considers the definite management of pneumonia. That our conception of pneumonia and its treatment has been greatly modified, and will ere long be still further modified by the results of painstaking researchers in the bacteriological and biological laboratories, and especially by the splendid work of Cole and his associates, scarcely needs to be said. The present big gun of the definite tactics is quinine in massive doses, somewhat as advocated by Jurgensen and recently revived by Galbraith. Long experience of the prompt and effective action in malaria of quinine and urea hydrochloride (quinine-carbomide hydrochloride) injected into the muscles, led Solis-Cohen to the adoption of that preparation and that method. For certain reasons quinine and its congeners are believed to be chemical antidotes or antitoxics to the pneumonia poison. In some cases a single dose is sufficient to insure recovery. In some cases no other drug is necessary. In the severer cases, however, quinine must be supplemented by cocaine, adrenalin, pituitrin or other effective pressure-raising agent; often by musk or camphor as a prompt cardiac or cardiovascular stimulant or by digitalis as a heart-sustaining agent. There is some reason also to believe that digitalis has another valuable property in pneumonia, namely, a certain antitoxic value. Saline infusion under the skin or by the rectum, alkaline-saline (chloride containing) beverages, water, external heat, and less frequently the administration of alcohol and inhalation of oxygen also find place. Iodine and creosotal are likewise of more or less important, more or less frequent, tactical use for definite indications. As to bacterial products, bacteria are used in unduly prolonged cases, and in cases of delayed resolution, after symptomatic recovery. Serums, when available, can readily be incorporated in the general plan. But we already have in abundance what is to his mind convincing clinical evidence as to quinine, very suggestive clinical evidence as to digitalis, and clinical evidence provoking inquiry as to veratrum viride. Clinicians who have used quinine—by whatever method—agree in the observation that in practically all cases, not excepting those of fatal issue, the clinical picture is completely changed. This is especially marked in the freedom from cough and from pain, so that neither expectorants nor opiates have to be used; in the relative ease of respiration even when the rate is but little lessened, so that oxygen is rarely called for; in the comparative rarity of insomnia and the frequent relief of delirium. The patient is comparatively comfortable throughout the course of the malady although he may be very ill—even ill to death. In cases in which quinine is used effectively, termination by crisis is rare. Lysis takes its place. Notwithstanding the large quantities of quinine sometimes administered cinchonism does not occur.

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**Antitetanus Serum:** In the June number of the *American Journal of the American Sciences*, H. E. Robertson considers the therapeutic possibilities of antitetanus serum. It is a generally recognized fact that tetanus antitoxin may be employed in two ways: (1) as a prophylactic measure, having for its object the prevention of a possible outbreak of tetanus, and (2) as a therapeutic agent for combating the toxin of this disease, after symptoms have already appeared. When tetanus antitoxin is injected into the body by the subcutaneous or intralumbar methods it is rapidly absorbed into the blood stream and the processes of excretion and destruction cause it to disappear entirely from the body in a few weeks. By intravenous injections, on the other hand, it is more rapidly distributed throughout the entire body and also passes more quickly from the blood into the general lymph circulation. Its greatest concentration, however, excepting only the local point of injection,



tion, is always in the blood stream. It is very important in this connection to keep in mind the differences between laboratory and human tetanus. Most of the laboratory animals after a subcutaneous or intramuscular injection of tetanus toxin, or inoculation of tetanus spores in the hind leg, show a local tetanus or "tetanus ascendans." In fact, in these animals the vital centres are usually the last to suffer attack. For some unknown reason the main path of travel for the toxin is up the spinal cord, and only relatively small amounts of toxin appear to be distributed by the blood stream to the other motor nerves of the body. In man, on the other hand, no matter where the site of infection may be, the first symptom is usually trismus, i. e., the motor centres which lie near the most vital centres of the nervous system, are the first to be attacked. The further progress of the disease follows that of a tetanus descendens, or better, a general tetanus, and is comparatively rapid in its development. From these facts it is clear that the results obtained by administration of tetanus antitoxin to animals in cases of tetanus ascendens, cannot rightfully be used as a measure upon which to judge of the exact treatment required and justified in human cases. Our main efforts must be directed toward the neutralization by antitoxin of the toxin which is present in the blood stream and that which may be further produced and thrown into the blood. The very best one can do is to render harmless, at the earliest possible moment, the toxin circulating free in the blood and to make impossible the circulation of any further toxin. For this purpose the intravenous injection of antitetanus serum is, as v. Graff emphasizes, a nearly perfect remedy, and moreover is not demanded in overwhelming or even large doses. Robertson proposes that every case in which symptoms of tetanus appear be treated at once, without delay, with an intravenous injection of 3,000 units of anti-tetanus serum. The "at once" should be emphasized. Even the saving of minutes of time may mean the difference between the life and death of the patient. The method consists in the immediate insertion of 3,000 units of antitoxic serum into one of the veins of the elbow. The one injection of 3,000 units is amply sufficient to neutralize the toxin which might be elaborated and absorbed from any ordinary tetanus infection, and this antitoxin will remain effective in the blood stream for at least one week, i. e., long enough to decide the issue in almost all cases of human tetanus. If the case should become chronic or suffer a recurrence, there can be no objection to a second or third injection, but a small dose is just as effective as a large one, and a large dose is as unjustifiable the second time as it was the first.

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**Ethylhydrocuprein:** In the *American Journal of Diseases of Children* for May, Arthur D. Hirschfelder and Frederic W. Schultz present some experiences with ethylhydrocuprein in the treatment of measles, scarlet fever and other infections. The studies of Morgenroth and his collaborators have shown that a number of quinine derivatives show considerable curative power against trypanosomes, spirochetes, and pneumococci, and that this power reaches its maximum in the substance known as ethylhydrocuprein. This drug has been used with a certain amount of success in clinical pneumonia, by Linne and Vetlesen, and also locally in cases of pneumococcus keratitis by Ginsberg. Giems and Izar have found it a specific in the treatment of stubborn estivo-autumnal malaria cases which have withstood the action of quinine. Further extension of clinical observation with this drug in other infectious diseases was warranted, and they made tests on cases of measles and scarlet fever, using a supply of the remedy obtained from Professor Morgenroth. Their observations on scarlet fever gave negative results. The doses were 0.1 to 0.5 gm. in capsule 3 times a day, according to age of patient. No cinchonism or other deleterious symptoms were manifested in their series. On the other hand, no beneficial effects were apparent,

as in the seven treated cases the fever and acute symptoms averaged 8.9 days, while in 7 untreated cases at same time the average duration was 7.4 days. In measles, however, the effects seem more promising. Eleven unselected cases were treated and showed an average duration of 4.3 days, while among ten unselected cases there were six cases of severe complications. It cannot be stated, however, that all the results were unequivocally favorable to the idea that ethylhydrocuprein might prove a specific for the treatment of measles. The duration of the eruption was utterly unaffected by the treatment. In most of the cases, however, the fever fell, and toxic symptoms abated quite markedly soon after the installation of the treatment. The series of cases treated thus far, they state, is too limited to warrant the drawing of conclusions, but it has seemed to them worthy of being placed on record as a preliminary publication. It indicates that ethylhydrocuprein is worthy of further trial in the treatment of measles. Experience in experimental rabies and experimental vaccinia, as well as in trachoma, showed no beneficial effect.

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**Spleen Extract:** Henry R. Harrower, in the *Medical Record* for June 3, writes upon the therapeutic value of spleen extract. Aside from the experiences which have time and again verified his position as to its use, two circumstances have established his confidence in this method of treatment—the fact that the extract of spleen not only has an effect when given by the mouth, but also that this effect is quite often a salutary one in conditions of anemia, splenic disease and tuberculosis. C. R. Carpenter has been using it for over fifteen years, and it has become a routine procedure to use this preparation when it is necessary to enhance the resistance to infection, increase leucocytosis, or augment the activity of the spleen, particularly in definite disease of this organ, and in malaria, especially the chronic forms. Rogers has shown that the most important controllable factor in kala-azar is a chronic infection which after prolonged illness predisposes to secondary infections and permits them to become rapidly fatal. From a laboratory standpoint there is a pronounced leucopenia, and the resistance to common infections is unusually low, and when they are present there is no response by the body evidenced by leucocytosis and usual reaction to bacterial invasion. It must be recalled that kala-azar is an “extremely fatal disease,” but Rogers concludes that “on the whole, spleen may be regarded as of distinct use in its treatment, and may readily be given in combination with other treatment.” Harrower is convinced that there is a greater field for spleen organotherapy in many conditions of anemia, malnutrition, poor resistance to infection, with or without marked leucopenia, malaria, and possibly typhoid fever. It is of distinct use and may be added advantageously to the present treatment of many cases of tuberculosis, malnutrition and other diseases in which its physiological effects are indicated.

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**Tobacco, etc.** *American Medicine* for May states as to the etiology of disease that we have long accepted the views of our teachers that the habitual use of alcohol, tobacco, tea and coffee form etiological factors of great influence in heart diseases. Current medical literature constantly reminds of heart complications depending largely, if not mainly, upon the use of these products. They are also said to be a factor in the causation of cancer in a large number of instances. We are solemnly warned against the use of any of these articles and led to believe by well-known writers—in some measure accepted authorities—that alcohol, tobacco, tea and coffee are poisons, and as such should never be indulged in. Total abstinence from all of these luxuries—the majority of men regard some of them as a necessity—is the only safeguard to health, wealth and happiness. Now, right in the face of this dictum, comes a Boston physician with the faith of conviction strong in him, who in a study of one hundred cases of his own, of auricular fibrillation, in the Massachusetts General



Hospital, together with over one thousand recorded cases of clinical disorders of the heart, declares that "the excessive use of alcohol, tobacco, coffee and tea apparently played no direct part in the production of the important disorders of the heart beat. A history of previous indulgence was obtained more often from the patients with normal cardiac mechanism than from those with serious disorders of the heart beat." Here surely is food for serious thought and study. That the intemperate use of alcohol, coffee, tobacco and tea may lead to well-defined physical as well as mental distress is obvious to all physicians, and in a limited measure to intelligent laymen, but all men are not given to excesses in this or any other direction. Great harm is done to medical science by careless exposition of these conflicting theories. Individualities count rather than generalities, and it is the individual through whom the general uplift can be brought about.

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**Sciatica:** In the *Therapeutic Gazette* for June, Alfred Gordon presents the treatment of sciatica and neuritis of other peripheral nerves with hot saline solutions. He has abandoned the use of alcohol in these cases because of the possibility of direct damage of alcohol to the nerves, and commenced to use physiological salt solutions in its place. After a large number of trials the observations led him to believe that the saline solutions of high temperature gave better and more lasting results than when tepid or cold. Hot saline solutions were always freshly prepared with freshly distilled and sterilized water for immediate use. Any large syringe of glass or metal can be used, and a needle which is used for lumbar puncture can be employed here. The needle is inserted first, and if no blood appears at its outer end the syringe is attached after all air is expelled from it. The piston of the syringe should be pushed in slowly to avoid sudden expansion and tearing of the tissue and possible hemorrhages. According to the nerve and its localization the amount of fluid injected will vary. For the sciatic nerve he injected as much as 200 cc. For the anterior auricular nerve 50 cc. was injected at a time. The same quantity was used for the external peroneal nerve. For relief of infra-orbital neuralgia 10 cc. was utilized. As to the selection of the points for the treatment of the various nerves, the following rules were observed: For the sciatic nerve, the point of juncture of the inner and middle thirds of a line passing between the tuber ischii and the great trochanter; for the anterior crural nerve, the inner third of the outer half of a line passing between the anterior superior spine and the root of the external genitalia; for the external peroneal nerve, the base of the fibula; for the infraorbital nerve, the foramen of the same name in the superior maxilla. The number of injections of hot saline solution varied in each individual case, and the following is his general rule: In the sciatica cases an injection was given at first every four days. If the pain subsided after the third injection, two subsequent injections were given—one a week. The following injections were given every two weeks if relief was not complete. Ordinarily the pain disappeared after the fifth or sixth injection. The same general rule was observed in the cases with neuritis of the anterior crural and external peroneal nerves, although fewer injections were required for neuritis of these two nerves than for sciatica. In the infraorbital neuralgia the number of injections was greater than in neuritis of any of the other nerves, one patient requiring weekly treatment for four months. The swelling and tenderness after injection usually disappear in twenty-four to forty-eight hours or a little longer. This method gives great relief, and he most emphatically recommends it.

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## NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Mead's Dry Malt Soup Stock.—A mixture containing desiccated maltose and desiccated dextrin (about equal parts) 47 per cent, wheat flour 47 per cent, potassium carbonate 1 per cent and moisture 5 per cent. Mead Johnson & Co., Jersey City, N. J. (*Jour. A. M. A.*, May 20, 1916, p. 1623).

Phenolphthalein-Monsanto. — A non-proprietary preparation of phenolphthalein admitted to New and Nonofficial Remedies (*Jour. A. M. A.*, May 20, 1916, p. 1623).

During May the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Hyson, Westcott & Co.:

Enteric Coated Glycotaura Tablets.

H. C. Merker Co.:

Petrogar.

Petrobran.

Monsanto Chemical Works:

Phenolphthalein-Monsanto.

Standard Chemical Co.:

Standard Radium Solution for Drinking (1 microgram Ra.).

**The Samuel D. Gross Prize—Fifteen Hundred Dollars—Essays Will be Received in Competition for the Prize Until January 1st, 1920.**—The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essay, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College Physicians, 19 S. 22nd St., Philadelphia," on or before January 1, 1920.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

WILLIAM J. TAYLOR, M. D.,

JOHN H. JOPSON, M. D.,

EDWARD B. HODGE, M. D.,

Trustees Philadelphia Academy of Surgery.

Philadelphia, March 1st, 1916.



## **The Academy of Medicine of Cleveland**

### **EXPERIMENTAL MEDICINE SECTION**

The eighty-eighth regular meeting of this section was held at the Cleveland Medical Library Friday, April 14, 1916, the Chairman, Howard T. Karsner, in the chair.

The regular program follows:

**1. Studies in Infarction; Experimental Bland Infarction of the Myocardium, Myocardial Regeneration and Cicatrization, by Howard T. Karsner and J. E. Dwyer, Jr.**

The speaker in his remarks, and in a series of lantern slides illustrating his experimental work, pointed out that the process of infarction in the myocardium is exactly the same as the process of infarction elsewhere. There is the formation of the red infarct in the beginning, which later becomes the white infarct. Both of these conditions, it is to be borne in mind, are merely successive steps in the same process.

**2. The Titration of Diphtheria Toxin in Unilateral Nephrectomized Guinea Pigs, by H. R. Wahl.**

Experiments were made by the speaker determining the lethal dose of diphtheria toxin in splenectomized and nephrectomized guinea pigs. Results pointed to the conclusion that the susceptibility of the nephrectomized pigs was undoubtedly increased for diphtheria toxin and that the immunity of the splenectomized pigs was raised to the diphtheria toxin.

The main conclusion of the speaker was that guinea pigs which are used in the titration of diphtheria toxin should have their urine carefully examined. In a series of guinea pigs, whose urine was examined, a number were found to have a markedly diminished kidney function.

**3. The Preservation of Erythrocytes for Immunological Purposes, by Stanley P. Reiman.**

The experiments, some 200 in number, were made following the publication of a special method, under which successful results were obtained. The method is to first wash the red corpuscles in sodium citrate solution, then in gelatinized Locke's solution and, finally, to preserve them in saccharose Locke's solution.

In the present series approximately 200 bloods, treated and preserved as above, were tested with the Wassermann reaction. Fresh specimens of the same bloods were also tested with the Wassermann reaction. With several minor exceptions the results on the fresh and preserved bloods were absolutely the same. The method offers a valuable means of preserving blood for such purposes for as long as 16 to 18 days.

**4. Papillary Tumors of the Renal Pelvis, by C. W. Burhans.**

Two cases of tumor of the renal pelvis were reported, the one a simple papilloma, the other a carcinoma, both under care at City Hospital. This type of tumor is of rather rare occurrence.

**5. Pathological Alterations Produced by Cholesterol Feeding, by M. L. Richardson.**

Cholesterol feeding, as is well known, produces in animals a type of arteriosclerosis closely simulating, in many respects, the arteriosclerosis of man. The speaker reported a series of experiments in which cholesterol sclerosis had been produced in animals.

The arterial changes which follow the feeding of cholesterol occur on an average of a month after the feeding has been begun. The report was illustrated by a series of slides.

**6. The Enzyme Theory of Life, by L. T. Troland, Ph. D.**

The speaker explained the beginnings of life on the enzyme theory, and traced it through its successive stages. On the basis of probability, the enzyme theory of life is quite probable.

## EXPERIMENTAL SECTION

The eighty-ninth regular meeting of this section was held at the Cleveland Medical Library, Friday, May 12, 1916, the Chairman, H. T. Karsner, in the chair.

The regular program follows:

**1. Abnormalities of Growth, by Lafayette Benedict Mendel, Professor of Physiological Chemistry, Sheffield Scientific School, Yale University.**

Capacity for growth is the real riddle of life. For example, we speak of crystals as growing, in a somewhat different manner the child grows, in a manner also different the bacterium grows. The meanings implied in the term growth are multifold. The present discussion deals with growth in a species which represents an analagous process to the growth in man.

Up to the present the problem of growth has been attacked largely from the standpoint of morphology, that is to say from a study of cellular structure and cell grouping. The factors influencing growth may well be divided into two classes, the external and internal, the former dealing with environment and food, in the main, the latter being constituted chiefly by heredity, impulse, glandular secretions, etc. It is obvious that the factors constituting internal influences on growth are largely beyond control. Any effort to control growth must, therefore, of necessity be directed toward the external factors of growth, namely, environment and food.

It is well to distinguish sharply between growth which constitutes renewal of parts already existent without developmental advance, such as the growth of hair and nails, and growth which constitutes a real developmental advance such as a gain in weight and the increase in the size and consequently in the development of an organ.

Abnormal growth is the term by which is specified disproportionate increase in the size of a given part in a given unit of time. Up to the present time, and indeed now, there is no satisfactory standard of growth. By some the increase in weight is taken as the index of growth, by others the increase in body length.

In the present series of experiments the rat was selected as the laboratory animal. An effort was made to select a food which was suited to the animal as nearly as possible. Experiments were made in underfeeding the animal. In underfeeding the amount was not merely reduced but care was taken to diminish accurately the amount of vitamins, fat and protein. Animals fed on a suitable food but in insufficient amounts failed to show an increase in the body weight. As soon, however, as the amount of food intake was rendered adequate, the animals showed satisfactory gains.

Considering the protein intake, it is to be remembered that a sufficient protein intake means something more than furnishing the animal with enough bulk. Different proteins influence the animal growth in diverse ways. All protein, to be utilized by the animal organism, must first be broken up into the building stones. However, gelatin, for example, furnishes material totally inadequate for the growth of the organism. The nature of the protein is vital to the animal growth. It is surprising, in the present series of experiments, how an animal failing to thrive on an inadequate protein, will show surprising growth when the essential protein is added to his diet.

As with the protein, so with the fat. Fat, per se, is not suited to any given animal. The fat must be of a suitable type. For example, the speaker, in feeding a series of rats, found that when fed on lard alone for their fat intake, the animals invariably developed sore eyes. When to the lard a small quantity of butter fat was added, the condition rapidly cleared up.



The effect of inorganic salts on growth is surprising. For example, the rats were fed on milk, salt free, with synthetic inorganic salts added. The animals invariably lost in weight and failed to do well. When the normal salt content of the milk was added the animals increased satisfactorily in weight. This shows very well that the peculiar combination and composition of salts cannot be artificially simulated.

By dietary measures alone the speaker was able to keep rats past middle age, according to their life cycle, still in the infantile stage. When, however, their food was adequately increased, the rats developed amazingly. This illustrates the point that after a period of inhibition it is not unusual for an animal to develop much more rapidly than normal. However, when there has been no period of inhibition, it is extremely rare to find hyperdevelopment of growth, per unit of time. An interesting example of the above dictum is that of a regiment, a bantam regiment, so to speak, on account of the diminutive size of the soldiers, recruited for service in the present war, from a district of East London. The men were underdeveloped and undernourished, it is to be presumed, on account of unfavorable environments and inadequate food. Immediately upon entrance into the army, however, with its better environment and improved rations, the members of the regiment developed surprisingly, and became well nourished, normal sized men. The speaker did not cite the last named example as a fact, but on trustworthy testimony, to be fully investigated later.

Correlation of growth may be dependent on numerous factors, for example, intestinal disturbances, congenital heart, ductless glands, etc. The latter might affect the sex qualities and station, also the appearance.

G. N. Stewart in discussion, called attention to the interest attaching to the rapid resumption of growth following a period of quiescence due to inhibition from improper food, environment, etc. He suggested that the internal organs and glands during this period might have been developing normally, so that when sufficient food and proper environment were added they were able to utilize them adequately, the end result being a surprising growth.

J. J. R. Macleod in discussion, commented on the fact that the growth of this problem of growth has been surprising, also the growth in the ideals and conclusions of the speaker as he personally had been conversant with them.

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## CLINICAL AND PATHOLOGICAL SECTION

The one hundred and seventeenth regular meeting of this section was held Friday, May 5, 1916, the Chairman, Frank J. Geib, in the chair

The regular program follows:

### 1. Painful Feet Demonstrated with the Radiograph, by W. I. LeFevre.

Painful feet are most commonly caused by disease, neglect, abuse, occupational conditions. Some of the most common causes of painful feet are corns, callosities, bunions, and ingrowing nails. Of the latter, ill-fitting shoes are the most common cause. The high frequency current is ideal treatment for corns and callosities. It destroys these formations without any resultant hemorrhage or infection.

Teeth, harboring blind abscesses and pyorrhea, are common causes of rheumatism and painful joints. Rheumatism is the clinical name for a streptococcus infection. Thus, micro-organisms in a tooth pocket enter the circulation, lodging in the arterioles in the synovial membrane lining joints, and in the arterioles of muscles. The result when the process is a rapid, active one, is rheumatism. When slow there is development of the condition known as arthritis deformans. Cleaning up tooth abscesses in cases of this kind is often attended with relief from the clinical symptoms.

The speaker exhibited a large series of radiographs showing conditions causing painful feet, also a number of radiographs showing blind abscesses in teeth.

F. E. Bunts, in opening the discussion, asked the speaker whether he had ever, in his radiographs, encountered a sesamoid bone in the tendon of the tibialis anticus muscle.

R. K. Updegraff substantiated the points made by the speaker, and reported a case of rheumatism which had cleared up absolutely when teeth abscesses were cleaned up.

## **2. Some Medical and Surgical Fallacies Concerning Gastro-intestinal Derangements, by Nathan Rosewater.**

The speaker related his experience with a variety of stomach conditions. Personal interest and forcing the point home in the individual case will often induce a tuberculous patient to eat when all other means fail.

One of the hardest types of cases to deal with is the individual who says that he cannot eat a good meal. There is also another type of patient who complains that he begins to tire early in the afternoon. In the latter type of case, if the matter is inquired into, it will be found that the patient eats practically no breakfast and perhaps a very insufficient dinner. It is the same proposition as attempting to run an automobile all day on a pint of gasoline. When the patient begins to eat normally, the tired feeling disappears.

An egg diet is an ideal one in tuberculosis. It is largely free from the disadvantages which attach to the milk diet. The speaker reported cases in which patients had eaten as high as a dozen eggs daily.

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**Cottage Schools.**—The *Weekly Bulletin* of the New York City Department of Health calls attention to an article by Todd urging the replacement of the present style of "tenement" schools by buildings erected on the cottage plan. In favor of this plan is the reduction of risk from infectious disease, particularly so far as such risk is due to the mingling of children from different rooms in the halls of the large buildings. Todd considers the ground necessary for the cottage school plan one of its chief assets. Much is to be said in favor of the idea that school buildings are a poor financial investment, and that a simpler and cheaper as well as more hygienic style of construction would be preferable. The one story cottage school almost entirely eliminates danger from fire, especially when proper material is used in its construction. The elimination of stairs and basement increases sanitary merits and decreases the cost of construction. The elimination of elaborate and expensive ventilating systems also cuts down operating cost.—*Journal A. M. A.*

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**Trichinosis.**—William Lintz, Brooklyn (*Journal A. M. A.*, June 10, 1916), adds three more cases to his record of the presence of the *Trichina spiralis* in the cerebrospinal fluid. The fluids in which they were found were apparently normal. His discovery has been confirmed by other observers and if the parasite is found to be fairly constant in the cerebrospinal fluid the method clinches the diagnosis rapidly as few other single procedures do.

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## BOOK REVIEWS

**What to Eat and Why.** By G. Carroll Smith, M. D., of Boston, Mass. Second edition, thoroughly revised. Octavo of 377 pages. Philadelphia and London; W. B. Saunders, 1915. Cloth, \$2.50 net.

"What to Eat and Why" is an excellent work on diet. If this report were being written prior to Allen's starvation treatment of diabetes, little adverse criticism could be offered. Smith has committed a grave omission in his failure to discuss this most effective treatment of diabetes. On other subjects this is a book of merit.

H. S. F.

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**Diagnostic Methods.** A Guide for History Taking, Making of Routine Physical Examinations and the Usual Laboratory Tests Necessary for Students in Clinical Pathology, Hospital Internes, and Practicing Physicians. By Herbert Thomas Brooks, A. B., M. D., Professor of Pathology, University of Tennessee, College of Medicine, Memphis, Tennessee. Third edition. Revised and rewritten. St. Louis, C. V. Mosby Company, 1916. Price, \$1.00.

The small volume outlines history taking, physical examination, and the various laboratory methods in diagnosis. In ninety-two pages the entire field of diagnosis is mapped out.

The outline for physical examination, while complete, is not logically arranged, and does not give the student a routine easily retained. In places, the author's endeavor for brevity has resulted in the lack of necessary detail for appreciation of the subject under discussion. A few errors of the printer have escaped the proof-reader.

H. S. F.

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**New and Nonofficial Remedies, 1916.** Containing Descriptions of Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association Prior to January 1, 1916. American Medical Association, 535 North Dearborn street, Chicago, Ill. Price, \$1.00.

The appearance of "New and Nonofficial Remedies, 1916" marks a step in the advancement of intelligent therapy. On its pages appear the pharmaceuticals which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to January 1, 1916. The rules of the Council have created a high standard in the production and in the publicity given new products.

The medical profession must feel deep appreciation to the Council for its critical work. The present volume gives a complete list of the accepted drugs, with methods of production, pharmacology, actions and uses, and dosage. The small volume, which is reasonably priced, will do much to keep the busy practitioner well posted in the advance of therapeutics.

H. S. F.

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**Reference Handbook of the Medical Sciences.** Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. First and Second Editions Edited by Albert H. Buck, M. D. Third Edition Completely Revised and Rewritten. Edited by Thomas Lathrop Stedman, A. M., M. D. Complete in eight volumes. Volume VI. William Wood & Company, New York, 1916. Price, cloth, \$7.00.

Volume six of the third edition is in keeping with the progressive nature of the work. As a medical encyclopaedia this work is pre-eminent. The contributors to the present volume are recognized as authoritative in their departments.

H. S. F.

**The Practical Medicine Series. Volume I. General Medicine.**

Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago. Series 1916. The Year Book Publishers, Chicago. Price of this volume, \$1.50. Price of series of ten volumes, \$10.00.

The volume "General Medicine" of the Practical Medicine Series contains lucid abstracts of the principal articles on medicine which have appeared during the past year. Billings has admirably edited this volume and besides, has made the text most readable, not an unimportant factor in well-written literature. The articles are judiciously selected and ably discussed. The medical field has been covered and one may well recommend this small volume as a most efficient aid to the physician.

H. S. F.

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**Diagnostic Methods.** A Guide for History Taking, Making of Routine Physical Examinations and the Usual Laboratory Tests Necessary for Students in Clinical Pathology, Hospital Internes, and Practicing Physicians. By Herbert Thomas Brooks, A. B., M. D., Professor of Pathology, University of Tennessee, College of Medicine, Memphis, Tennessee. Third Edition. Revised and Rewritten. St. Louis, C. V. Mosby Company, 1916. Price, \$1.00.

**What to Eat and Why.** By G. Carol Smith, M. D., Boston. Second edition, thoroughly revised. W. B. Saunders Company, Philadelphia and London, 1915. Price, \$2.50.

**Report on the Medico-Military Aspects of the European War.** From Observations Taken Behind the Allied Armies in France. By Surgeon A. M. Fauntleroy, U. S. Navy, Instructor in Surgery, United States Naval Medical School. Government Printing Office, Washington, D. C., 1915. Under the Direction of the Bureau of Medicine and Surgery, United States Navy Department.

**Reference Handbook of the Medical Sciences.** Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By various writers. First and Second Editions Edited by Albert H. Buck, M. D. Third Edition Completely Revised and Rewritten. Edited by Thomas Lathrop Stedman, A. M., M. D. Complete in eight volumes. Volume VI. William Wood & Company, New York, 1916. Price, cloth, \$7.00.

**Studies in Surgical Pathological Physiology from the Laboratory of Surgical Research.** New York University, 1915. Volume I. Edited by John Willam Draper, Editor.

**Diseases of the Digestive Tract and Their Treatment.** By A. Everett Austin, A. M., M. D., Former Professor of Physiological Chemistry at Tufts College, University of Virginia, and University of Texas; Present Assistant Professor of Clinical Medicine, in Charge of Dietetics and Gastrointestinal Diseases, Tufts College; etc. Eighty-five illustrations, including ten color plates. C. V. Mosby Company, St. Louis, 1916. Price, \$5.50.

**The Medical Clinics of Chicago.** Volume I, Nos. 5, March, 1916, and 6, May, 1916. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. Price per year, \$8.00.



**The Art of Anaesthesia.** By Paluel J. Flagg, M.D., Lecturer in Anaesthesia, Fordham University Medical School; Anesthetist to Roosevelt Hospital; Instructor in Anaesthesia to Bellevue and Allied Hospitals, Fordham Division; etc. 136 Illustrations. J. B. Lippincott Company, Philadelphia and London. Price, \$3.50.

**The Practical Medicine Series. Volume II. General Surgery.** Edited by John B. Murphy, A.M., M.D., LL.D., F.R.C.S., England (Hon.), F.A.C.S., Professor of Surgery in the Northwestern University, etc. Series, 1916. The Year Book Company, Chicago. Price this volume, \$2.00. Price of series of ten volumes, \$10.00.

**Skin Cancer.** By Henry H. Hazen, A.B., M.D., Professor of Dermatology in the Medical Department of Georgetown University; Professor of Dermatology in the Medical Department of Howard University; Sometime Assistant in Dermatology in the Johns Hopkins University; Member of the American Dermatological Association. With Ninety-seven Text Illustrations and one Colored Frontispiece. C. V. Mosby Company, St. Louis, 1916. Price, \$4.00.

**Aseptic Surgical Technique.** With Especial Reference to Gynecological Operations, together with Notes on the Technique Employed in Certain Supplementary Procedures. By Hunter Robb, M.D., Formerly Professor of Gynecology, Western Reserve University, and Gynecologist-in-Chief to the Lakeside Hospital, Cleveland, Ohio; Fellow of the American Gynecological Society and of the American College of Surgeons; etc. Forty-four Text Figures and Twenty-four Plates. Fifth Edition, Revised. J. B. Lippincott Company, Philadelphia and London. Price, \$2.00 net.

**Rules for Recovery from Pulmonary Tuberculosis.** A Layman's Handbook of Treatment. By Lawrason Brown, M.D. Second Edition, Thoroughly Revised. Lea & Febiger, Philadelphia and New York, 1916. Price, cloth, \$1.25 net.

**The Mortality from Cancer Throughout the World.** By Frederick L. Hoffman, LL.D., F.S.S., F.A.S.A., Statistician the Prudential Insurance Company of America; Chairman Committee on Statistics, American Society for the Control of Cancer; Member American Association for Cancer Research; etc. The Prudential Press, Newark, New Jersey, 1915.

**Diseases of the Skin.** By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Member American Dermatological Association; etc. Six Hundred and Ninety-three illustrations, and eight colored plates. C. V. Mosby Company, St. Louis, 1916. Price, \$6.50.

**Annual Report of the Board of Regents of the Smithsonian Institution.** Showing the Operations, Expenditures and Condition of the Institution for the Year Ending June 30, 1915. Government Printing Office, Washington, 1916.

**United States Life Tables, 1910.** Prepared Under the Supervision of Professor James W. Glover of the University of Michigan. Department of Commerce, Bureau of the Census. Samuel L. Rogers, Director. Government Printing Office, Washington, 1916.

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**No Instruction for Officers of Medical Reserve Corps.**—Owing to the withdrawal of troops from their regular stations for duty on the Mexican border, the War Department has been compelled to abandon the camps of instruction for officers of the Medical Reserve Corps, that were to be held during the coming summer.

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# RECENT ADDITIONS TO THE CLEVELAND MEDICAL LIBRARY

- Eppinger, H., and Hess, L. Vagotonia. A Clinical Study in Vegetative Neurology. (Nervous and Mental Disease Monograph Series, No. 20). New York, Nervous and Mental Disease Pub. Co., 1915, 93 pp.
- Krehl, L. Basis of Symptoms. Translated from the 7th German edition by A. F. Beifeld. 3rd Amer. edition. Philadelphia, Lippincott, 1916, 517 pp.
- MacNutt, J. S. Manual for Health Officers. New York, Wiley, 1915, 650 pp.
- International Clinics Edited by H. W. Catell. Vol. 1, 26 series, 1916, 326 pp. Vol. 2, 311 pp. Philadelphia, Lippincott.
- Progressive Medicine Edited by H. A. Hare. Vol. 1, March, 1916, 17-354 pp. Vol. 2, June, 1916, 17-482 pp. Philadelphia, Lea.
- Bruce, H. A. Sleep and Sleeplessness. Boston, Little, 1915. (Mind and Health Series), 219 pp.
- Cullen, T. S. Embryology, Anatomy, and Diseases of the Umbilicus. Philadelphia, Saunders, 1916, 680 pp.
- Skeel, R. E. Manual of Gynecology and Pelvic Surgery. Philadelphia, Blakiston, 1916, 680 pp.
- Underhill, F. P. Physiology of the Amino Acids. New Haven, Yale Univ. Press, 1915, 169 pp.
- Herrick, C. J. Introduction to Neurology. Philadelphia, Saunders, 1915, 355 pp.
- Ashhurst, A. P. C. Surgery, Its Principles and Practice, for Students and Practitioners. Philadelphia, Lea & Febiger, 1914, 1141 pp.
- Roberts, John B., and J. A. Kelly. Treatise on Fractures. Philadelphia, Lippincott, 1916, 677 pp.
- Studies in Surgical Pathological Physiology from the Laboratory of Surgical Research, New York University, 1915. (A Collection of Reprints.)
- Handbuch der Vergleichenden Physiologie. Hrsg. von H. Winterstein. Band 1 to 4. Jena, Fischer.
- Hall, J. N. Borderline Diseases. A Study of Medical Diagnosis with Especial Reference to its Surgical Bearings. New York, Appleton, 1915 (2 Vols.), 748 and 713 pp.
- Gruner, O. C. Studies in Puncture-Fluids. A Contribution to Clinical Pathology. Philadelphia, Blakiston, 1908, 289 pp.
- Ortner, N. Treatment of Internal Diseases for Physicians and Students, Edited, with additions, by N. B. Potter. Translated by F. H. Bartlett. 3rd English edition. Philadelphia, Lippincott, 1915, 645 pp.
- Hoffman, F. L. The Mortality of Cancer Throughout the World. Newark, N. J., Prudential Press, 1915, 826 pp.
- Wells, H. G. Chemical Pathology. Being a discussion of General Pathology from the Standpoint of the Chemical Processes Involved. Philadelphia, Saunders, 1914 (2nd edition), 616 pp.
- Mallory, F. B., and Wright, J. H. Pathological Technique. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. Philadelphia, Saunders, 1915 (6th edition), 536 pp.
- Dejerine, J., and Gauckler, E. The Psychoneuroses and Their Treatment by Psychotherapy. Translated by S. M. Jelliffe. Philadelphia, Lippincott, 1915 (2nd edition), 395 pp.



- Trudeau, E. L. *An Autobiography*. Lea & Febiger, Philadelphia, 1916, 322 pp. Illustrated.
- Czapek, F. *Biochemie der Pflanzen*. Jena, Fischer, 1913. Band 1 (2e Auflage), 828 pp.
- Bang, I. *Chemie und Biochemie der Lipide*. Wiesbaden, Bergmann, 1911, 187 pp.
- Metcalf, L., and H. P. Eddy. *American Sewerage Practice*. Volume 3, *Disposal of Sewage*. New York, McGraw-Hill, 1915, 851 pp.
- Michaelis, L. *Die Wasserstoffionenkonzentration ihre Bedeutung fuer die Biologie und die Methoden ihrer Messung*. Berlin, Springer, 210 pp.
- Mendel, L. B. *Changes in the Food Supply and their Relation to Nutrition*. New Haven, Yale Univ. Press, 1916, 61 pp.
- Hill, H. W. *The New Public Health*. New York, Macmillan, 1916, 206 pp.
- Crile, G. W. *Man—An Adaptive Mechanism*. New York, Macmillan, 1916, 387 pp.
- Bulloch, W., and Fildes, P. *Eugenics Laboratory Memoirs*. XII. *Treasury of Human Inheritance*, Parts V and VI, Section XIVa. *Haemophilia*, with 17 Plates of Pedigrees and 1 Plate of Illustration. London, Cambridge Univ. Press, 1911, pp. 169-354.
- Proceedings of the Royal Society of Medicine*, Vol. 9, Parts 1-4. London, 1915-16.
- Transactions of the London Obstetrical Society*, Volumes 1 to 49, 1860 to 1907. London, Longmans, Green & Co.
- American Encyclopedia and Dictionary of Ophthalmology*. (Edited by C. A. Wood.) Volume 8, *H. to Institutions for the Blind*. Chicago, Cleveland Press, 1916, pp. 5673 to 6418.
- Transactions of the 37th Annual Meeting of the American Laryngological Association*. New York, 1915, 402 pp.
- Transactions of the 20th Annual Meeting of the American Academy of Ophthalmology and Oto-Laryngology*, Chicago, 1915. 326 pp.
- Transactions of the Association of American Physicians*. Thirtieth session, Washington, 1915. Philadelphia.
- Third Annual Report of the Cancer Commission of Harvard University*, 1915.
- Transactions of the Clinical Society of the University of Michigan*, October, 1914-October, 1915. Vol. 6. Ann Arbor, Mich.
- Transactions of the American Pediatric Society*, 27th Session, Lakewood, N. J. Vol. 27, 1915.
- Ergebnisse der Inneren Medizin und Kinderheilkunde*, Band 14. Berlin. Springer, 1915.
- The National Association for the Study and Prevention of Tuberculosis*. *Transactions of the 11th Annual Meeting*, Seattle, 1915. Williams & Wilkins, Baltimore, 1915. 409 pp.
- Transactions of the 21st Annual Meeting of the American Laryngological, Rhinological and Otological Society*, Chicago, 1915. New York, Hoeber.
- Transactions of the American Surgical Association*, Volume 33, 1915. Philadelphia, Dornan, 825 pp.
- Transactions of the American Climatological and Clinical Association*. Volume 33, 1915. 210 pp.
- Macmichael, W. *The Gold-Headed Cane*. With an Introduction by Sir W. Osler, and a Preface by F. R. Packard. New York, Hoeber, 1915, 261 pp.

- Le Dentu, A., and Delbet, P. *Nouveau Traite de Chirurgie*. Vol. 34, Gynecologie, par E. Forgue et G. Massabuau. Paris, Bailliere, 1916, 922 pp.
- Graefe-Saemisch-Hess. *Handbuch der gesamten Augenheilkunde*. Leber, Th., Die Krankheiten der Netzhaut. Band 7, 2 Hälfte. Leipzig, Engelmann, 1916, pp. 947-2057.
- Public Health Reports issued Weekly by the United States Public Health Service. Volume 30, Part 1, Numbers 1-26. Washington, 1915.
- Mitteilungen aus der medizinischen Fakultät der Kaiserlichen Universität zu Tokyo, 15 Band, Heft 1 and 2. Tokyo, Japan.

### New Journals

- American Journal of Physiology, Baltimore.
- Journal of Bacteriology, Baltimore.
- Journal of Cancer Research, Baltimore.
- Journal of Comparative Neurology, Philadelphia.
- Journal of Immunology, Baltimore.
- Journal of the Royal Sanitary Institute, London, Eng.
- Journal of the Royal Statistical Society, London, Eng.
- Journal of State Medicine, London, Eng.
- Quarterly Journal of Experimental Physiology, London, Eng.
- Social Hygiene (American Social Hygiene Association).
- Biometrika; a Journal for the Statistical Study of Biological Problems.
- A complete file of this publication has been purchased.

### Presented by the Cleveland Medical Journal

- Romer, F. *Modern Bonesetting for the Medical Profession*. New York, Rebman, 1915, 77 pp.
- Hertzler, A. E. *Surgical Operations with Local Anesthesia*. New York, Surgery Pub. Co., 1916, 312 pp.
- Stern, H. *Theory and Practice of Bloodletting*. New York, Rebman, 1915, 264 pp.
- Cabot, R. C. *Physical Diagnosis* (6th edition). New York, Wood, 1915, 521 pp.
- Anders, J. M. *A Text-Book of the Practice of Medicine* (12th edition). Philadelphia, Saunders, 1915, 1336 pp.
- Edwards, A. R. *A Treatise on the Principles and Practice of Medicine* (3rd edition). Philadelphia, Lea & Febiger, 1916, 1022 pp.
- Hill, L. W., and Eckman, R. S. *The Starvation Treatment of Diabetes*. With a series of Graduated Diets used at the Massachusetts General Hospital. With an Introduction by R. C. Cabot. (2nd edition.) Boston, Leonard, 1916, 131 pp.
- Asch, P. *Twelve Lectures on the Modern Treatment of Gonorrhea in the Male*. Translated by F. E. Gardner. Rebman, New York, 1915, 104 pp.
- Shattuck, G. C. *A Synopsis of Medical Treatment*. (2nd edition.) Boston, Leonard, 1915, 185 pp.
- Fantus, B. *Candy Medication*. St. Louis, Mosby, 1915, 82 pp.
- Robinson, W. J. *The Treatment of Gonorrhea and Its Complications in Men and Women*. New York, Critic & Guide, 1915, 315 pp.
- Royster, L. T. *A Handbook of Infant Feeding*. St. Louis, Mosby, 1916, 144 pp.



- Carlson, H. E. The Obstetrical Quiz for Nurses. A Monograph on Obstetrics for the Graduate and the Under-Graduate Nurse in the Lying-in-Room. New York, Rebman, 1915, 316 pp.
- Davis, C. H. Painless Childbirth Eutocia and Nitrous Oxid-Oxygen Analgesia. Chicago, Forbes, 1916, 134 pp.
- The Medical Clinics of Chicago, Vol. 1, Numbers 4, 5 and 6. Philadelphia, W. B. Saunders Co., 1916.
- Brooks, Herbert T. Diagnostic Methods. A guide for History Taking, Making of Routine Physical Examinations and the Usual Laboratory Tests Necessary for Students in Clinical Pathology, Hospital Internes, and Practicing Physicians. (3rd edition.) St. Louis, Mosby Co., 96 pp., 1916.
- The Practical Medicine Series, Vol. 1, General Medicine, 1916. 384 pp.
- New and Nonofficial Remedies, 1916. Containing Descriptions of the Articles which have been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to January 1, 1916. 428 pp.
- Smith, G. Carroll. What to Eat and Why. (2nd edition.) Philadelphia, Saunders Co., 1915. 377 pp.
- Fauntleroy, A. M., U. S. Navy. Report on the Medico-Military Aspects of the European War from Observations Taken Behind the Allied Armies in France. Washington, Govt. Printing Office, 1915. 146 pp.
- Reference Handbook of the Medical Sciences Embracing the Entire Range of Scientific Medicine and Allied Science. (3rd edition, Vol. 6.) Lig-Oza. Edited by Thomas L. Stedman, New York, 1916, W. Wood & Co. 967 pp.

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**American Hay Fever Prevention Association**, assisted by the municipal Board of Health, the City of New Orleans has recently adopted a hay fever ordinance.

The ordinance provides that the tenant or occupant of any leased or occupied premises, lot or other area, or, in case of premises not leased or occupied by another person, the owner thereof shall not permit weeds or grass over two feet in height to grow or stand on such premises, or permit weeds or grass over one foot in height to grow or stand on the side walk abutting such premises.

Violation of the ordinance is punishable by a fine not exceeding twenty-five dollars, or by imprisonment up to thirty days, or both.

A number of commentators have state dthat this is the first ordinance of its kind to be adopted in America. They have evidently overlooked Section 221 of the Sanitary Code of the New York City Department of Health, a section adopted by the Board of Health on June 30, 1915, more than six months before the adoption of the New Orleans ordinance.

Sec. 221. Growth of Poison Ivy and Rag Weed Prohibited.—No person owning, occupying, or having charge of any lot or premises in the City of New York shall cause, suffer, or allow poison ivy, rag weed, or other poisonous particles or emanations therefrom to be carried through part of such ivy, rag weed, or other poisonous weed shall extend upon, overhang, or border upon any public place, or allow the seed, pollen, or other poisonous patricles or emanations therefrom to be carried through the air into any public place. (As adopted by the Board of Health, June 30, 1915.)—*Bulletin N. Y. Dept. Health.*

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**OHIO STATE BOARD EXAMINATIONS**

Held at Columbus, June 6, 7, 8 and 9, 1916

**Physiology**

1. Describe functions of visceral muscle.
  2. What is the nature of the nerve impulse? Discuss nerve fatigue.
  3. What are the advantages of a mixed diet? How does a purely protein diet affect metabolism?
  4. What is the mode of secretion and discharge of the bile?
  5. Give histology of blood plates.
  6. Discuss intra-vascular coagulation. What pathological conditions of the vessels favor its development?
  7. Locate the cardio-accelerator center. How is the heart rate affected through the vagus nerve?
  8. Describe Cheyen-Stokes respiration. With what pathological states is it usually associated?
  9. Describe effects of removal of parathyroid tissue.
  10. What is the origin, distribution and function of the third nerve?
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**Chemistry**

1. Give the chemical formula for mercurous chloride, mercuric chloride, and mercurous nitrate. Give one characteristic of each.
  2. State the difference between a physiological and chemical antidote for poison, and give an example of each.
  3. What is organic chemistry? State the general properties of organic compounds.
  4. Differentiate between fermentation and putrefaction.
  5. What is methyl alcohol? Give formula, properties and uses.
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**Anatomy**

1. Name the subdivisions of the abdominal cavity.
  2. Give a description of the knee joint.
  3. Name the carpal bones.
  4. Describe the prostate gland.
  5. What is the length of the intestine and its divisions?
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**Pathology**

1. What is the blood picture in myelogenous leukemia? Give source of abnormal cells found.
  2. What is a hemorrhage infarct; what would be the course of such a condition—for example, in the kidney?
  3. Describe tubercle formation, and the various pathologic results in pulmonary tuberculosis.
  4. Give method of preparing a vaccine for furunculosis.
  5. Describe your precautions in treating a case of diphtheria:
    - (a) for the physician;
    - (b) for the patient's family;
    - (c) for the general community.
- 

**Materia Medica and Therapeutics (Regular)**

1. Name the three principal serums. Give mode of administration and indication for use of each.
2. Name the different preparations of digitalis and aconite. Give dose and cumulative action of each.



3. Cocaine hydrochloride—its physiological action and principal uses. Give symptoms and treatment of an habitue.
4. For what purposes are diuretics employed. Name the principal ones. How are they usually classified?
5. Give the physiologic action, use and dose of salicylate of sodium.
6. Potassium salts—name the principal ones and give dose and use of each.
7. Name three external antiseptic remedies. Give indications for and state how each may be used.
8. Nux Vomica—its therapeutic uses, important preparations—dose of each.
9. Give the indications for internal use of corrosive sublimate; state dose.
10. Give the therapeutic uses and state the dose of opium and its alkaloids.

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### Materia Medica and Therapeutics (Eclectic)

1. Define tincture, extract, ointment.
2. Name five methods of introducing medicine into the system.
3. Name two active vasomotor stimulants.
4. Name two remedies for acute dysentery, and state indications for the use of each.
5. Name four uses of hydrastis.
6. Name chief alkaloid and its dose: (a) opium; (b) coca; (c) belladonna; (d) ipecac.
7. Give briefly, the specific indications for veratrum, pulsatilla, gelsemium, macrotys, eryngium.
8. What are the indications and contra-indications for the use of quinine?
9. Write ten lines on the specific uses of bryonia.
10. Name three serums and give the mode of administration and indications for use of each.

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### Materia Medica and Therapeutics (Homeopathic)

1. Differentiate between Bryonia and Rhus Tox in the treatment of rheumatic disorders.
2. In what pathological conditions is Thuja Occidentalis indicated?
3. Give symptoms indicating Allium Cepa in catarrhal disorders.
4. Give chief characteristics of Aconite, Arsenicum, Arnica.
5. Name remedy in loose, profuse, watery, rice water stool.
6. Name three remedies in the treatment of tonsillitis and give chief indications.
7. What is the meaning of potency?
8. What is Hahnemann's theory of drug action?
9. How does trituration affect the medicinal action of drugs?
10. What potencies do you think best to use? Give reasons for same.

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### Diagnosis

1. Give symptomatology of incipient pulmonary tuberculosis.
2. Give etiology and physical signs of myocarditis.
3. Describe difference in symptomatology of acute dilatation of heart and hypertrophy of heart.
4. How can the functional competency of each kidney be demonstrated?
5. Give differential diagnosis: ulcer of stomach; ulcer of duodenum and cholecystitis.

6. Give early signs of hyperthyroidism.
7. Differentiate enlarged gall bladder and optosed right kidney.
8. Describe physical signs of effusion in acute pleuritis.
9. What is the most important sign of leukemia?
10. What are the early signs of acute poliomyelitis?

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### Practice

1. Describe the symptom complex of uremia; tell how you might suspect it to be impending in a given case, and what treatment you would employ in an effort to avert it.
2. In what diseases should one be on the lookout for the development of acute endocarditis, and how would you recognize its occurrence?
3. Give symptoms of cancer of the liver involving the neighborhood of the hepatic duct.
4. Given a case of a man of sixty-five of alcoholic history, with edematous ankles, dyspnea and cough with occasional bloody expectoration, albuminuria, and blood pressure of 150 (sys.); what would be your presumptive diagnosis? Trace prognosis of the case from the primary condition.
5. In an instance of alleged hematemesis, give other possible sources of the blood, and tell how you would recognize the origin in a given case.
6. Describe your treatment of a case of pulmonary tuberculosis, moderately advanced, involving chiefly one side, with a temperature of 101° Fahrenheit, and subject to occasional hemorrhage.
7. Give symptoms and treatment of a case of influenzal pneumonia.
8. Give symptoms of acute myelitis, differentiating it from multiple neuritis.
9. Mention some indications of cerebral syphilis. How would you make a positive diagnosis; briefly outline the treatment.
10. How would you treat a case of acute articular rheumatism?

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### Surgery

1. SHOCK:
  - (a) Cause.
  - (b) Symptoms.
  - (c) Outline treatment.
2. ACUTE SUPPURATIVE APPENDICITIS.
  - (a) *Diagnosis*:
    1. Subjective and objective symptoms.
    2. Differentiate between this and similar abdominal disorders.
    3. Preliminary treatment.
  - (b) *Operation*:
    1. Surgical technique.
    2. After treatment.
    3. Prognosis.
3. COLLES' FRACTURE:
  - (a) Diagnosis.
  - (b) Pathology.
  - (c) Treatment.



## 4. HIP JOINT DISEASE:

- (a) Diagnosis.
- (b) Treatment: surgical; mechanical.
- (c) Prognosis.

## 5. GUNSHOT WOUNDS:

- (a) Give rule regarding probing.
- (b) Give rule regarding immediate operation.
- (c) In a gun shot wound of the knee what would be your course of pursuance?

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**Obstetrics**

1. When would you be justified in inducing premature labor?
  2. How would you diagnose the existence of pregnancy?
  3. What are the symptoms of fetal death?
  4. State indication and contra-indication for the use of the curette and the technique of this operation.
  5. Name the stages of labor and describe the management of the third stage in detail.
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**Dermatology, Syphilology and Diseases of Eye, Ear, Nose and Throat**

1. Describe psoriasis. Give treatment.
  2. Of what disease is pruritus ani a frequent sign?
  3. Upon what evidence would you base a belief that a patient is cured of gonorrhea?
  4. Describe signs and symptoms of congenital syphilis.
  5. Outline an approved treatment of syphilis.
  6. What are the dangers of acute suppurative inflammation of the middle ear?
  7. Describe trachoma. Give treatment.
  8. Describe tubercular laryngitis.
  9. Give treatment of acute suppuration inflammation of frontal sinus.
  10. Give treatment of nasal polypi.
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**Chronic Nephritis.**—An unusual case of chronic interstitial nephritis with findings in the blood and urine is reported by R. H. Halsey, New York (*Journal A. M. A.*, June 10, 1916), the features of which are summarized substantially as follows: 1. The respiration rate was of an unusual periodic type, increasing during sleep to almost twice the frequency of the waking period, but not of the Cheyne-Stokes or Biot type, though uremia was the cause of death. 2. The blood sugar and blood nitrogen, as well as the carbon dioxid combining power of the blood plasma, are shown as indicating the condition and course of the disease. 3. The absence of phenolsulphonephthalein excretion, together with other urinary findings, are recorded. 4. Though the arteriosclerosis, retinal changes and high pressure were extreme, there was the physical evidence of only the slightest hypertrophy of the heart. 5. Two days before death the profuse epistaxis occurred, followed by edema of uvula and palate and the development of fibrinous pericarditis." Examination of the urine only would not have revealed the serious condition. The phenolsulphonephthalein excretion is of value as indicating the present status, but the amount of urea and creatinin in the blood, especially the latter, give a definite clue to the progress and prognosis.

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# The Cleveland Medical Journal

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Vol. XV

JULY, 1916

No. 7

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## TYPHOID FEVER IN CLEVELAND IN 1915

By J. G. FREY and R. G. PERKINS, from the Laboratory of Hygiene,  
Western Reserve School of Medicine.

This report is the fifth of a series dealing with typhoid fever in Cleveland. Again the weather conditions offered nothing unusual, so that there was no special reason for sudden or excessive pollutions of water at the crib. As will be seen, however, this pollution was fairly constant. We have a further reduction of total cases from 271 in 1914 to 250 in 1915.

The sources of information were similar to those noted in the previous reports. We are especially indebted to the Department of Health for the use of their reports of incidence and mortality, and to the City Laboratory in that Department for their records of the administration of hypochlorite. We are also indebted to the Federal Weather Bureau for information as to winds, precipitation and ice conditions. Dr. Don B. Lowe, District Physician, was of great assistance in collecting dates of incidence and sources of infection during the first part of the year, and Dr. J. E. McClelland, District Physician, took up the work during the latter part of the year.

It has again been attempted to obtain the date of incidence rather than the date of report, but in many cases this has been impracticable. It is hoped, however, that with certain reorganizations in the Health Department, it may show a very marked improvement in 1916.

### Division of the Year

As in previous reports, the year has been arbitrarily divided into two parts, one including those months in which it is *possible* for cases to have been due to fly infection, namely, July to November, inclusive, and the other including those months in which such transmission is *negligible*, namely, January to June, inclusive, and December.



### Analysis of Incidence and Mortality

*Distribution.*—The pin map for the year shows an extraordinary distribution. There is nothing to suggest the influence of local conditions, such as flies and carriers, but there is much to suggest some central source common to the entire city. It is unfortunate that East Cleveland and Lakewood should be separated politically from Cleveland, inasmuch as no reports from these communities are available.

*Localized Epidemics.*—There were two well-marked epidemics in 1915. The larger of these was of out-of-town origin, following a picnic at Barsick's Grove, Parma, O. The lemonade was made from a polluted water supply, and eleven persons were taken ill within three weeks after their arrival at their homes in Cleveland. Of these one died. There were no cases among those who did not use lemonade.

The other outbreak consisted of five cases reported late in February and early in March. Every one of the patients had received his milk supply from the same dealer. A thorough investigation revealed the fact that the husband of a woman suffering from typhoid had during the period of her illness, as on previous occasions, taken milk from the cans of a certain milk dealer with a cup from his own dinner pail, which he was carrying back and forth with him from his home. The milk in the can subsequently became contaminated by this man, since the investigation excluded the following factors:

1. The dairy from which the milk came.
2. Cases and their relation to other people to exclude contact.
3. Trainmen.
4. Handling at the depot, at the shipping and receiving points.

A detailed report is given in the *Journal of the American Medical Association*, November 20, 1915, page 1797, by Dr. Don B. Lowe, District Physician, Division of Health, Cleveland.

### Etiology

*Foods and Beverages.*—With the exception of the two epidemics noted above, there was no evidence of any cases coming under these heads. The total number of cases for the year was

not large, and several cases with the same date of onset at once become suspicious, but in none of these groups could any common factor be found.

*Flies.*—As the sanitation of the city improves, there is less and less suggestion of fly infection, even the local epidemics in the outskirts having become much less frequent.

*Contact.*—There are seven cases which may be due to contact. These may be listed as follows:

The first case was that of a patient at Huron Road Hospital for amputation of a finger. In the next bed to him was a patient suffering from typhoid. Twenty days after leaving the hospital, he also contracted the disease.

The second case was that of a trained nurse in charge of a typhoid patient.

The third case was that of a nurse who contracted the disease while nursing two typhoid patients in East Cleveland.

The fourth case was that of a man whose wife had had typhoid three to four weeks before.

The fifth case was that of a boy, aged four years, whose brother had had typhoid a few weeks before.

The sixth case was that of a man whose wife had had typhoid just a short time prior.

The seventh case was that of a girl who contracted the disease while nursing a sister ill with typhoid.

### Miscellaneous Water Supplies

In one case water was obtained at a supply presumably contaminated through an auxiliary water supply taken directly from the river. This is the third case of typhoid which has occurred among employees of the Cleveland Electric Railway Company since August 1, 1914. It was found that the boiler room supply, drawn directly from the Cuyahoga river at the Superior viaduct, was so piped as to mix with the city supply used for drinking. The connection was broken and no more cases occurred.

The second case was that of a carpenter on a pile driver, who habitually drank lake water from near shore.

### City Water Supply

Samples were taken directly from the tap at the City Laboratory, at 421 Superior avenue. In addition samples were taken daily except Sundays and holidays from three openings at the East 49th street pumping station. Sample 1 represents raw or



untreated water, taken from the main shaft before the entrance of the hypochlorite solution. Sample 2 represents water treated about two minutes, and taken at the outlet of the pumps. Sample 3 represents water treated about thirty minutes, taken either at the tap in the yard or the tap of the wash-room, according to the weather. Inasmuch as the laboratory water represents water treated more than one hour, a wide range of contact time could be compared.

Table 1 gives the extent of the findings of intestinal bacteria from each of the four sources during the year. It is interesting to note that the reduction in pollution in the treated samples as against the raw samples is even less than last year.

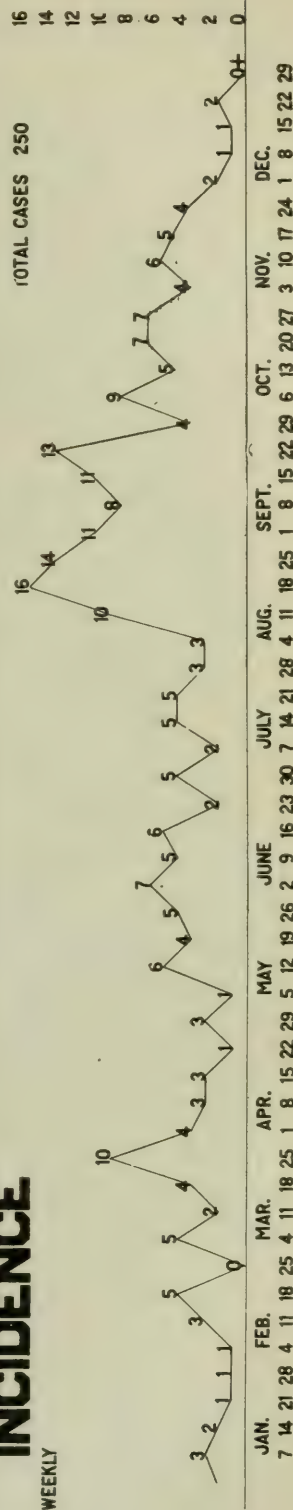
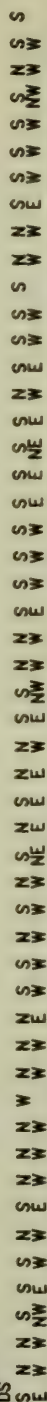
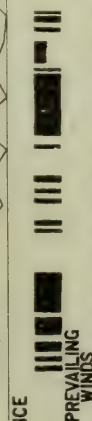
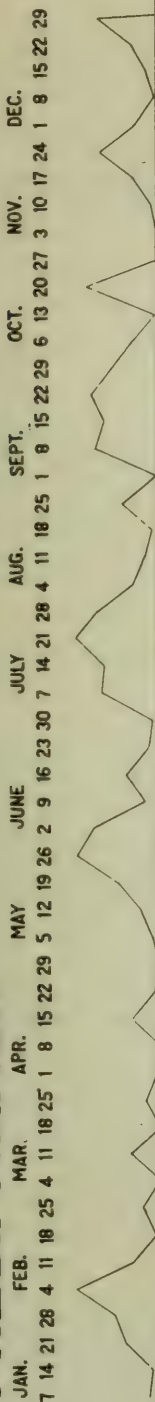
Table 1

	Lab'y Tap.		Pump		Washstand or Yard		Raw	
	Total	Percent Pos.	Total	Percent Pos.	Total	Percent Pos.	Total	Percent Pos.
January . . . . .	31	16.1	25	16.0	25	20.0	25	40.0
February . . . . .	27	7.4	22	22.7	21	4.8	22	31.8
March . . . . .	31	35.5	27	22.2	27	25.9	27	48.1
April . . . . .	30	20.0	25	16.0	25	12.0	25	36.0
May . . . . .	31	16.1	25	00.0	25	8.0	25	44.0
June . . . . .	30	16.7	26	26.9	26	19.2	26	84.6
July . . . . .	31	38.7	26	26.9	26	15.3	26	84.6
August . . . . .	31	64.5	26	26.9	26	15.4	25	92.0
September . . . . .	30	26.7	25	16.0	25	4.0	25	76.0
October . . . . .	30	76.7	26	76.9	26	50.0	26	88.4
November . . . . .	28	85.7	25	80.0	25	76.0	25	84.0
December . . . . .	31	67.6	26	73.0	26	80.8	26	84.6
Total . . . . .	361	39.2	304	34.5	303	27.6	303	66.2

Table 2—Raw Water Samples

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
January . . . . .	12	12	16	1	5	16	*	18	19	11
February . . . . .	11	11	12	6	10	13	9*	14	23	7
March . . . . .	17	15	13	10	16	17	19	14	24	12
April . . . . .	17	17	3	1	7	11	16	22	21	9
May . . . . .	12	16	7	9	12	11	11	23	22	11
June . . . . .	20	16	10	4	17	15	18	22	20	23
July . . . . .	17	17	11	9	14	12	17	19	16	20
August . . . . .	22	13	16	10	18	8	16	6	16	23
September . . . . .	21	16	7	14	14	2*	14	11	24	18
October . . . . .	21	16	13	12	21	*	16	13	21	23
November . . . . .	14	15	7	9	14	*	12	19	19	20
December . . . . .	7	5	2	12	9	*	4	25	19	22
Total . . . . .	191	169	117	97	157	104	152	206	244	199
Monthly average . . . .	16	14	10	8	13	12	14	17	20	16

\*Chlorine started September, 1911, and no raw samples were taken until February 8, 1912.



This chart shows the summary of the typhoid for 1915, together with the rainfall, the weather reports, the laboratory findings and the incidence and mortality. The dates as shown in the upper and lower border carry through vertically so that the incidence for any given week may be studied in relation to the weather and laboratory conditions in previous weeks, and the bearing of these conditions on the curve may be seen. The RAINFALL is in total inches per week, with the figure noted at the top. The heavy line shows the presence of an ICE sheet over the lake, the broken portion indicating the period of floating ice. The prevailing WINDS for the week are shown below the ice record. The portion marked GAS shows the fermentations as recorded in the City Laboratory. Here the upper line shows the number of fermentations of lactose bile each week in the raw water, while the lower line shows the average of the three daily examinations of water from three points in the service, the pump, where the water has been treated for about five minutes, the yard, where it has been treated about thirty minutes, and the laboratory tap, where it has been treated about an hour and a quarter to an hour and a half, according to the estimate of the water department. The curve of the MONTHLY MORTALITY has the total number of deaths for that month noted at the proper points, and the WEEKLY INCIDENCE below is marked in a similar manner. Comparison with the similar chart in the record for the previous year will show a general rise of the level, most marked in the spring, and coinciding with the period after the flood.



Table 3

Month	1911		1912		1913		1914		1915	
	Times	Parts per m. m.	Times	Parts per m. m.	Times	Parts per m. m.	Times	Parts per m. m.	Times	Parts per m. m.
January . . . . .	..	.....	12	0.732	14	0.337	16	0.681	10	0.395
February . . . . .	..	.....	6	0.719	15	0.371	15	0.608	7	0.318
March . . . . .	..	.....	15	0.541	11	0.387	16	0.492	14	0.278
April . . . . .	..	.....	19	0.566	27	0.579	22	0.493	9	0.271
May . . . . .	..	.....	20	0.493	25	0.585	24	0.480	8	0.274
June . . . . .	..	.....	12	0.407	23	0.579	14	0.462	13	0.264
July . . . . .	..	.....	9	0.319	23	0.593	9	0.442	23	0.285
August . . . . .	..	.....	8	0.450	16	0.453	11	0.473	22	0.315
September . . . . .	6*	.....	8	0.409	17	0.429	19	0.486	13	0.443
October . . . . .	16	0.944	7	0.403	14	0.460	16	0.487	28	0.440
November . . . . .	11	0.872	9	0.408	21	0.554	19	0.430	25	0.429
December . . . . .	9	0.586	6	0.389	24	0.637	15	0.389	26	0.452
Total . . . . .	—	—	—	—	—	—	—	—	—	—
Monthly average.....	40	.....	128	.....	230	.....	196	.....	198	.....
	..	.....	11	.....	19	.....	16	.....	16	.....

\*Began September 11.

Feb. 1-22, inclusive, 0.750.

Feb. 23-29, inclusive, 0.338.

Tables 2 and 3 relate to changes in the character of the water in connection with the chlorine administration. Table 2 shows the monthly findings of fermentations of lactose bile in untreated water since the use of this medium was begun. It shows clearly that the water as obtained from the Four Mile Crib has been more or less constantly polluted, and if anything, that the pollution is constantly becoming greater. A positive result is recorded in these summaries if there was gas in the one-tenth, the one or the ten cubic centimeter tube.

Perhaps the most interesting thing is the constant high level of pollutions in the raw water, reaching well up towards the maximum possible. During the summer, when the lake is most quiet, the treated water showed much fewer pollutions than raw, but with the onset of the fall storms, the two became practically equal. It may be noted in passing that this condition obtains in 1916.

### Imported Cases

The cases which developed the disease within three weeks of the arrival in town have been classified as out of town, though it is, of course, possible that some of these had short periods of incubation and developed the disease through etiological factors acquired in Cleveland. Cases which resided in Cleveland for a period longer than three weeks prior to the date of the infection, but were in and out of town constantly, were classified as possible and probable in proportion to the amount of their absence, and also to the presence of marked typhoid conditions in the places in which they had been. Practically all the cases of the latter type were of similar character, and in the final classification only two groups were made, namely, the *certainly* and the *possibly* out of town cases.

It is interesting to note that, although the total number of cases reported was smaller than that of the previous year, there were more out of town cases. Out of 76 supposedly imported cases, 71 were certainly out of town, and 5 were possibly out of town. Of the 76 cases, 47 occurred between July and November, or co-incidentally with the vacation season. In many of these cases the disease was diagnosed within three or four days after arrival in town, and all gave a history of drinking tap water without regard to its quality.

One case is apparently of interest in this connection, inasmuch as it developed in a prisoner in a city penal institution some





# TYPHOID INCIDENCE

## 1915

### WEEKLY

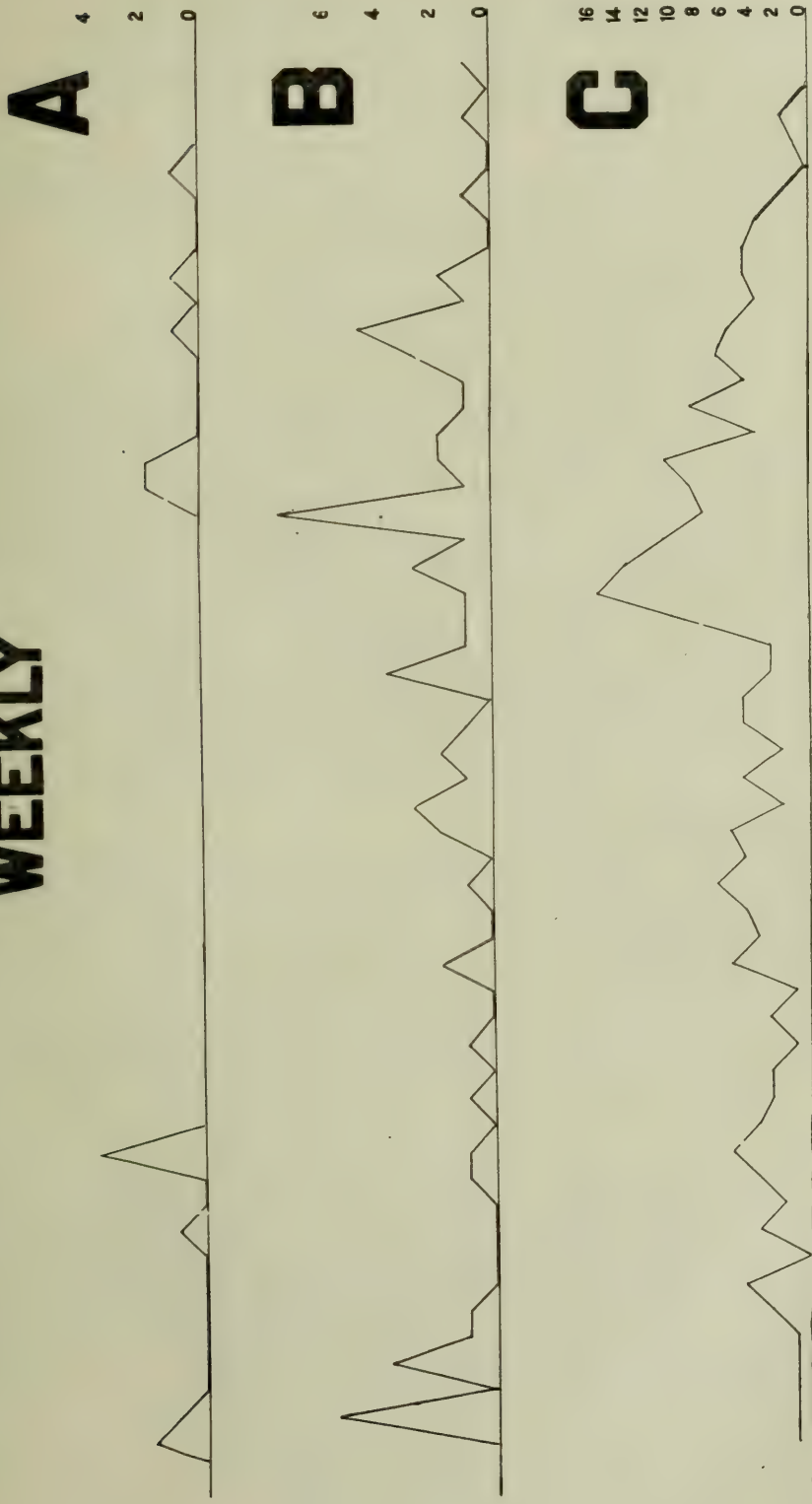


CHART III

Analysis of WEEKLY INCIDENCE for 1915. Curve A—Cases due to LOCAL ETIOLOGICAL FACTORS, such as milk, contact, etc. Curve B—Cases PROBABLY and POSSIBLY IMPORTED as well as those CERTAINLY IMPORTED. Curve C—Cases reported in addition to these. In other words CASES IN WHICH WE HAVE NO EVIDENCE OF LOCAL FACTORS OR OF EXTRA MURAL ORIGIN.



ten miles out of town. No other case had occurred there, and the man had been detained some four months before the onset of the disease. It was ascertained, however, that he had from time to time received food from his visitors, and in the absence of other cases it is more than probable that he obtained his infection in this way.

One of the routine cases is of additional interest in that the patient, while a private in the United States Army in 1911, had received three antityphoid inoculations.

### Summary and Conclusions

The total number of cases showed a slight decrease over 1914. It is interesting to note that in August and September we have a large percentage of the total cases for the year, and that it is during these months that the largest number of out of town infections occurred. We are inclined to believe that a more careful analysis of the cases at this time, if such were possible, would show that some of these also were of out of town origin. The chlorination has again been inadequate, as shown by the unduly high percentage of infections in the treated waters, but this is a condition which will apparently not be remedied until the installation of the filtration plant, as it is not under the jurisdiction of the Health Department.

The improvements in sanitation, the more extensive use of typhoid vaccine, together with a continued supervision of the milk and food supplies, will keep the typhoid at a low figure, but we feel strongly that without the removal of a central water infection of a more or less constant, though not extensive character, there will not be a very marked improvement even over the present showing.

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**Do You Know That:** Four per cent of the inhabitants of certain sections of the South have malaria? The United States Public Health Service has trapped 615,744 rodents in New Orleans in the past 18 months? The careless sneezer is the great grip spreader? Open air is the best Spring tonic? Typhoid fever is a disease peculiar to man? Measles kill over 11,000 American children annually? There has not been a single case of yellow fever in the United States since 1905?

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## THE GOITRE PROBLEM

By HARRY G. SLOAN, M. D., F. A. C. S., Cleveland, Ohio

We think that goitre is a physiological response in hypertrophy to meet a demand of the organism thrown upon it. To be physiologically normal, the thyroid must have an ample iodine supply. This gland, as is well known, contains a much higher percentage of iodine than any other tissue in the body. When the thyroid has not sufficient iodine to function normally and is exposed to any sudden strain, as, for instance, in helping to increase the body's immunity against an invading germ, or because of intense mental strain, it will hypertrophy and form the well recognized goitre.

At the sea level, goitres are the exception. This is because people living at sea level constantly obtain in their food a sufficient supply of iodine so that the thyroid may function under most any strain without having to grow larger to meet the demands for its secretion. On the contrary, in districts where the iodine supply is barely sufficient in the food for the normal function of the thyroid, the gland, instead of having a reserve functioning capacity of 40 per cent, has its reserve reduced to, let us say, 10 per cent. Any strain thrown on the gland under these circumstances will cause an enlargement.

The explanation of the so-called goitre belts is not entirely clear, but it seems to me there is a possibility that over these areas where goitre is prevalent, people do not receive a sufficient amount of iodine in their food so that the thyroid is not at the height of its physiological possibilities. As an instance, let me call to your attention the experiment made on sheep in the St. Clair Flats around Detroit. Here, some years ago, all the sheep had goiters, and the lambs became cretins to such a degree that it threatened the life of the sheep industry in that locality. These sheep had been salted with salt derived from the wells in the St. Clair Flats, which was low in iodine content. On substituting sea salt, which is rich in iodine, for the St. Clair Flats product, the goiters immediately disappeared from the sheep and the industry again thrived. Iodine, as we know, is derived primarily from the sea, and the fact that only five per cent of animals along the seashore have any thyroid enlargement, in contrast to our locality, where about 95 per cent of them show some goitre, would lead one to the conclusion—in view of the sheep experiment—that undoubtedly iodine plays quite a role in normal thyroid activity.



Moreover, goitre can be prevented in a goitre belt by giving sufficient iodine before any thyroid hypertrophy takes place. Geologically, the Great Lakes Basin belongs to the old Archaean system, the oldest known stratum in the world. Undoubtedly a percolation of the water through this overlying soil over vast periods of time has been sufficient to leach out nearly all of its iodine.

On comparing the iodine content of various thyroids, it has been found that the normal gland contains the highest percentage, the colloid goitre next, and the gland as found in acute Graves' disease, least of all.

We know of two ways in which the thyroid can be stimulated. Asher, of Berne, and Beebe, of New York, have shown that it is possible to cause increased thyroid activity by stimulating the sympathetic as it runs in on the wall of the superior thyroid artery. Asher took as his index of activity the presence of accumulated moisture on the gland surface, with engorgement of the lymphatics draining it. Beebe found that the stimulated half of the thyroid contained less iodine than the other unstimulated half, and concluded the gland was, hence, more active than its unstimulated fellow.

We, therefore, know that the gland can be stimulated through the central nervous system alone. From our clinical experience, we must recognize the important role that mental worry, anxiety and fright play in bringing on an acute Graves' disease. In this instance, the overactive brain sends multiplied stimuli to the whole system. Those falling on the thyroid, which is already laboring because of its lack of iodine to sustain its physiological role, may cause such a hyper-secretion as to light up an acute Graves' disease.

In the second place, the gland may be stimulated by circulating foreign proteids derived from bacterial activity in the body. The observation of the thyroid enlargement during acute infections, such as typhoid, is well known. The thyroid acts by augmenting the activity of the central nervous system by means of its secretion thrown out into the blood stream. In this way, an attempt is made by the organism to destroy the foreign proteids circulating in the blood by increasing the general body oxidation. The brain is first activated through the blood stream by bacterial toxins, and the thyroid secretion thrown out as a result, further activates the brain, thus forming a vicious circle. There occurs a concomitant hypertrophy of the thyroid gland while the

body is developing an immunity to a bacterial invader. In our clinical experience, we have noted that thyroid hypertrophy occurs in all acute infections, but it has been brought to our attention most forcibly in cases of incipient tuberculosis. Some focus of chronic infection is our most constant clinical finding in pathological thyroid enlargements.

Feeding thyroid gland increases oxidation in the body. Oxygen consumption is increased, and the nitrogen output is also increased. The rate of metabolic activity is closely related to the thyroid functioning. In the cretin, where the thyroid is under-active, one sees just the opposite condition. Here, there is a lack of mental keenness in place of the undue mental activity seen in man, when thyroid feeding has been pushed too far. The cretin stores weight, his temperature is subnormal, and nitrogen output decreased below what it should be.

Under the stimulus of an infection, the thyroid lends its aid to the defense of the body by increasing the oxidation processes. Thyroid feeding in dogs causes an increased functioning of the central nervous system, as Crile has shown in his studies of the brain cells. It also gives increased oxidation and nitrogen output. An infection, occurring in a person who lives in a goitre belt, and whose thyroid has only a small percentage of reserve functionating capacity, because of its lack of iodine, is prone to cause a thyroid hypertrophy or goitre.

In the first stages of thyroid enlargement the giving of iodine may be sufficient to control the goitre. On the other hand, in event the case has progressed to the picture of exophthalmic goitre, the giving of iodine rarely gives relief, and may do much harm by increasing all the symptoms. We look on the varying types of thyroid enlargement, from colloid to Graves' gland, as one merely of degree and intensity. The systemic poisoning is present in each, only in a much milder degree in a colloid type. The colloid type, allowed to progress for a number of years, will give the same, only milder, end results in damage to the central nervous system, heart, liver and kidney, as occurs much more rapidly in the acute Graves' type. In these long-standing colloid goitres, the heart shows the effect of the poisoning first. We think that the so-called goitre heart of the Germans is a myocarditis resulting from the prolonged poisoning by thyroid secretion. These patients gain much relief from their symptoms by thyroidectomy.



We think that the toxic symptoms of Graves' disease are the result of an over-abundant thyroid secretion, which damages the whole body. They appear as loss of weight, nervous and muscular exhaustion, unstable emotions and muscular tremor. Involvement of the sympathetic system gives rise to the rapid heart rate, skin blush, and sweating. The forcible cardiac impulse, or pyknomardia, is the result on the heart of the excess of adrenin arising from the adrenal through its undue stimulation by way of the brain via the splanchnics. This same factor also causes the enlargement of the pupils so frequently seen in Graves' disease. A vicious circle is formed. The excess thyroid secretion stimulates the output of nervous activity of the central nervous system. In turn, the thyroid is stimulated by the impulses coming over its nerve connections with the central nervous system. In order to cure our patients, the circle must be broken, either by partial removal of the thyroid gland or by eliminating the focus of infection that is immediately causing the trouble. Graves' disease, coming on as a result of undue mental strain, offers a poor prognosis when treated medically. This is because of the impossibility of completely eradicating the anxiety which has given rise to the disease. The circle had best be broken at the thyroid by an operation.

Patients affected by Graves' disease show an unstable mentality; they are irritable, and very easily excited. Husbands especially complain of this irritability. Inability to concentrate on any one thought for any length of time is a marked feature. Decision is difficult with them, and they are easily exhausted from mental activity. Women frequently cry for no known reason, and in a way it seems to be a sort of a safety valve for their pent-up emotions. Following such a crying spell, they experience a relief from the general nervous tension from which they are constantly troubled. The patients have the appearance of wide-awake acute mentality, and look as though they were on a strain. They frequently complain that it is difficult to get to sleep during the early part of the night, but that they sleep soundly once they fall asleep. They show general muscular weakness, which often becomes first apparent in the knees giving way. At this stage of the disease, a fine tremor of the hands and lips is complained of. Loss of weight is a constant factor with this malady. The most bothersome thing to the patient is probably the forcible beating of the heart, which may be so

marked as to shake the bed at times. This may occur spontaneously, while the patient is lying quietly in bed, or may be the result of physical exertion, or emotion. They complain of perspiring profusely. Graves' cases are able to go about in winter much more lightly clothed than formerly, and frequently complain of being too warm in bed at night. This feeling of heat is universal all over the body; cold hands and feet are never complained of in the true Graves' cases. Ordinarily they show cycles of several days at a time when they feel better, only to be followed by another cycle of several days when they feel worse. The appetite remains good. During periods of exacerbation of the disease a profuse diarrhoea may occur. Enlargement of the thyroid gland follows palpitation of the heart in order of the appearance of symptoms. As the patient becomes more toxic from the goitre they notice the eyes becoming more prominent. Menstruation usually becomes irregular and scantier. The skin around the eyes and in the natural folds of the body assumes a darker hue than normal; acne may be a prominent feature, affecting principally the chest and the interscapular space. Early decay of the teeth and falling of the hair, coupled with fragility of the nails, follow as the disease makes further progress. Men show a more intense type of the disease, as compared with women, because they naturally have more physical force and strength to throw into the reaction as a result of their thyroid drive.

On examining such patients, the whole skin is hyperemic, and has a slightly cyanotic tinge to the mild blush. It feels soft and moist, with almost a velvety texture, so that frequently it is possible to make a snap diagnosis of their disease at the time when one shakes hands. The hand is warm and moist, and the skin has the characteristic velvety feel. One may notice the pigmentation of the skin about the eyes, as well as their prominence. If the breathing is carefully observed, it will be noted to be not infrequently punctuated by a sighing respiration. While under tension in telling of their sickness the examiner often notes the fine tremor of the lips. In the pure type of Graves' disease the thyroid shows a symmetrical enlargement. This is best brought out by having the patient lie with a pillow under the shoulders, allowing the head to fall back and bringing the neck into greater prominence. The gland is of fairly firm consistency, and on palpation over the sites of the superior thyroid vessels a fine purring thrill is often sensed. The gland is



often sensitive when palpated. Unilateral swellings of the thyroid, giving rise to the intoxication seen in Graves' disease, are usually foetal adenomata. The heart is found to be uniformly enlarged, out both to the right and the left. The cystolic impulse is forcible, often raising the chest wall at each beat. This forcible beating of the heart, or pykncardia, as it is called, is characteristic of the disease. During the patient's account of his malady there are frequent opportunities offered the physician to inquire into the family life and general interests that may have a bearing on the case. The confidence of the patient, once established, gives a fuller, less evasive response from women of marriageable age when there is any question of love unrequited. During this period of undue mental strain in woman, Graves' disease is not an unusual sequel. Rapid loss of weight and strength, without fever, coupled with the signs of a mild thyroid activation, in a young woman ought to immediately make the physician suspicious of an "affair de coeur." The condition is directly dependent on the mental unrest and worry which accompanies the decision of this, the most important problem in a woman's life. The thyroid in this instance is activated through the central nervous system.

The physical examination must include a search for any possible focus of infection. The teeth, especially their roots, as shown in X-ray films; the gums, the accessory sinuses of the nose, the tonsils, the ears, and the general lymphoid tissues back of the throat, must all be covered. Next the chest must be gone over to discover, if possible, any focus of tuberculosis. The abdomen, in its turn, must be investigated to see if it might possibly disclose any disease of the gall bladder, appendix, or the uterine adnexae. Last of all, careful examination must be made of the urine to see whether there is any bacterial infection arising from the kidney. The offending kidney may be located by light percussion, which gives the patient pain over the diseased organ. X-ray examination, of course, will throw other lights on the condition.

### **The Graves' Picture Component Seen With Pulmonary Tuberculosis:**

Probably the single most common infectious factor accompanying undue activity of the thyroid is seen in pulmonary tuberculosis of the incipient type. The patient may have lost weight,

may show a thyroid enlargement with a rapid heart rate, yet the vascular picture is not identical with that seen in pure Graves' disease. The skin does not have the hyperemic blush, and, instead of being soft and moist, it is usually dry and a little harsh, with the exception of the palms of the hands and the soles of the feet, which tend to be clammy. The cardiac impulse also lacks the factor of forcibleness that is so characteristic of the true Graves'. The pulse does not have the bounding quality, as seen in pure thyroid disease; the excursion between systolic and diastolic is less marked. These patients usually have an evening fever which is wholly unexpected in a pure Graves' disease at a similar stage of the disease. Any rise of temperature more than 100 is the exception in Graves' disease, unless they are quite ill. Of course, in these early tuberculous cases, the chest lesion is to be identified. They may further be proved out by the tuberculin test and stereo of chest. Ordinarily, in this type of case, the heart is not enlarged as in true Graves'. Adhesions pulling it to the left may be misleading when one is percussing the ventricular border. These people have a mild thyroid activation, as shown in the slight tremor, their excitability, and the mild degree of intoxication pointing toward thyroid involvement. For them we recommend the tuberculous regime of rest in bed, out of doors, with over-feeding and small doses of iodine.

### **Adolescent Type**

There are three varieties: one where there is thyroid enlargement, with hardly any intoxication, with normal weight, and apparently the patient is fully up to the mark in ability to perform work normally; here the gland is compensating by its hypertrophy. Second, the type showing the border line Graves', with loss in weight. Third, the heavy type seen principally in boys with heavy, thick, full necks, with a symmetrical enlargement of the whole thyroid gland of large proportion. They keep their weight very well, but show their instability by easy tiring, their rapid heart action and general excitability. In this heavy type there is usually a well marked acne accompanying it, and it will be found that the intestinal tract is largely at fault. Operative results of adolescent types are disappointing, hence not advised.

### **"Cold Graves'"**

Occurring principally in women. They show thyroid enlargement, gradual and progressive loss in weight, with rapid heart, a pulse of small excursion, sallow skin, with cold hands and feet



and slight tremor of the coarser variety. They sweat markedly from the axillary fossa, as well as over the surfaces of the palms and feet. These patients are unable to take cold baths because they fail to have any reaction following them, so that their feet and hands are cold several hours later. Constipation is a known factor with them, and their whole symptom complex, including their headaches, is directly referable to the stasis and absorption arising from decomposing intestinal contents. These people are nervous, mentally depressed, chronically tired, and show the exhaustion of their reserve nervous energy, and ordinarily are termed neurasthenics. This picture is seen most often in tired mothers who have borne children rapidly, and have become worn out with the household cares, lack of sleep, and the labor and worry incident to having progeny. This type of patient demands rest, both physical and mental, with attention both to their intestinal elimination and their intake of proper food.

### **Hypertonus: Associated With Old Colloid Goitres**

Such individuals generally show little loss in weight, but they have the nervous instability and the tremor seen with the well marked case of Graves' disease. Their pressure may run from 180 to 220 mms. of mercury. The heart is universally enlarged, and the impulse may be irregular in force and rhythm, showing the underlying disease of the heart muscle. The pyknomardia makes one certain of the thyroid factor concerned in the disease. Thyroidectomy gives immense relief to these people; the brunt of the operation, however, is borne by the heart muscle, which must be carefully supported by digitalis before and following this procedure.

### **Treatment:**

It is a wise plan in the region of the Great Lakes Basin to have children, as they are approaching and going thru puberty, take small amounts of iodine one month out of every three, in order to supply any possible lack of this material that may exist in their diet. In this way it is possible to control the unsightly enlargement of the thyroid which we see in so many of our young people at this stage of life, when the thyroid is called upon to function over-actively in the development of the growing body. In pregnant women it is also wise to give small amounts, say five drops of the syrup of the iodide of iron after meals, likewise one

month out of every three. This supplies the double-felt want, in that there is an undue strain thrown on the thyroid during pregnancy, and, secondly, it supplies a certain amount of iron which is wise to give all pregnant women on account of the tendency to the slight anemia during this time. There is an inherited tendency in the offspring of a goiterous mother to have a compensatory thyroid enlargement. With proper functioning of the mother's gland this factor disappears in the child. Of course, in both instances there should be a careful physical examination made in order to determine that there are no lurking foci of chronic infection which tend to aggravate the trouble.

### Graves' Disease

On making a diagnosis, the physician's first endeavor should be directed to the discovery of any chronic infection, and, if such is discovered, to institute proper treatment directed toward its eradication. The accessory sinuses of the nose are a favorite lurking place for infections which tend to flare up the thyroid activity. The X-ray, in combination with the transillumination, as well as rhinoscopic examination, will give evidence as to the normality of these sinuses. Any teeth which have been aching or sore in times past, or that have felt longer than their fellows, especially if the roots have been filled, should be investigated by means of the X-ray in order to determine if there is any infection at the tip of the root. These small abscesses are quite frequently painless, yet are marked factors in the development of thyroid disease. In several instances which I recall, pyorrhoea alveolaris has proved to be the provocative factor. The adenoid tissues in the throat and nasal pharynx, especially the tonsils, may harbor sufficient chronic suppuration to be a positive factor. Tonsils do not need to be enlarged in order to cause damage, for frequently it is the buried sclerotic type that is the worst offender. Careful attention should be paid to the examination of the lungs in order to discover, if possible, any spot of active tuberculosis, however small. A thorough examination should be made in case there is any doubt in this question, using as checks to the clinical signs, the X-ray, tuberculin reaction and sputum examination. The abdominal examination may reveal a quiescent chronically inflamed gall bladder, appendix or fallopian tubes. The genito-urinary tract must be carefully investigated in order to eliminate a baccilluria, renal tuberculosis or abscess, as well as chronic suppurative diseases of the prostate in the male.



In case such thorough examination reveals no infection that would be deemed abnormal, we must then investigate the gastrointestinal tract, aiming to produce normal elimination, so that there may be no absorption from this area, owing to the putrefaction of the fecal proteid material which is not normally eliminated each day. Many cases which undoubtedly have their symptoms arising from bacterial decomposition in the intestines are markedly benefited by the exhibition of thymol in capsules, given five grains after each meal. Thymol is soluble in alcohol, oil, or in vinegar, and if taken in conjunction with any of these substances, may give rise to irritative symptoms in the gastrointestinal tract. These patients also tend to improve when buttermilk is added to their dietary, care being taken that they regularly receive a pint each day. At the same time, it is a good plan to give minimum doses of iodine. This may be given internally, as the syrup of iodide of iron, in one to two minim doses in water after meals. If this manner of administration is obnoxious, the same effect may be accomplished by painting the skin the size of a quarter with the ordinary tincture of iodine, and varying the location daily. Iodine is absorbed from the skin, and acts on the thyroid just as efficiently as though taken by mouth. It is wise, in case even of normal daily evacuation of the bowels, to have the patient take a moderate physic weekly, using sodium phosphate as the agent. Thyroid cases do best on a meat-free diet; on the other hand, encouragement should be given to eat of vegetables generously. Where there is any question as to the bacterial purity of the water, it should be boiled before drinking.

During the exhibition of iodine the patient must be carefully watched to see that the symptoms are not aggravated. They may have all the symptoms of the disease intensified by too much iodine. Thyroid extract acts in a similar way because of its iodine content. It is not an unusual thing to see a full blown Graves' occur in corpulent women who are over-zealous in causing weight reduction by taking thyroid extract. It usually takes four to six weeks of iodine medication before the enlarged gland is observed to shrink and become firmer to touch. In the long-standing colloid type there is little hope of much reduction in the size of the gland because of the presence of scar tissue.

If, in spite of these measures which we have been discussing, after having the patient in bed for one month, he does not improve, namely, the nervousness does not lessen, along with the

tremor and tachycardia, and the loss in weight continues, with an exaggeration of his general nervous symptoms, then it will be wisest to resort to surgical measures in order to curtail the abnormal activity of the thyroid, which, if allowed to continue, undoubtedly takes its toll in damage to the central nervous system, heart muscle, liver and kidney.

There is a certain percentage of Graves' cases in whom we are unable to demonstrate any factor of chronic infection. These cases show mental over-activity. The central nervous system acts as a whole so that under undue mental strain over-adequate stimuli are sent to all parts of the body. These falling on a thyroid which is already laboring to fill its physiological role, are sufficient to cause a full-blown Graves'. Such cases rarely improve under medical treatment, because of the hopelessness of eliminating the mental factor. The vicious circle had best be interrupted by thyroidectomy. When once the handicapping thyroid factor is done away with, their cure depends to a large extent on the amount of mental tranquillity and physical rest they may be able to obtain. The signs in the patient that point most emphatically to the involvement of the thyroid in the diseases, and which influence one to advise operation, are those which are shown by the vascular phenomena, namely, the hyperemic skin blush, cherry lips, the forcible heart-beat and thrill found in the thyroid circulation. The sweating, tremor, increased deep reflexes and exophthalmia give further indication of the degree of the nervous system involvement.

Speaking surgically, Graves' disease must be handled very carefully. The normal amount of alkaline reserve is much reduced in them. That is, the ability of the body to neutralize acid waste products of metabolism is reduced. It is possible to cause an alkaline reaction in a normal person's urine by administering ten to thirty grains of sodium bicarbonate. In the bad Graves' cases it is well nigh impossible to change the reaction of their urine by giving alkalies. Many of them show acetone in the urine. Recent studies by DuBois show the metabolism in severe Graves' is increased as much as 100 per cent above the normal. From this we can understand under what tension the whole organism labors, and why it is the weight loss is such a feature. Resp. Calorimeter in Clin. Med., E. F. DuBois, *Am. Jour. Med. Sc.*, June, 1916, p. 781.



The normal person has a fairly generous supply of mobile alkaline reserve available from the fixed tissues of the body. In case this reserve is heavily taxed so, instead of being 70, it is reduced to 40, then, on emergency, the respiratory centre comes to the rescue to relieve the condition by rapid exchange of air, eliminating the acid  $\text{CO}_2$  by way of the lungs. Once the body's alkaline reserve is markedly reduced, it is very difficult to increase it by medication. Prolonged rest of the fixed tissue cells whence the alkaline factor originates alone allows a permanent return to normal. The clinical signs of lowered alkaline reserve are seen in the dark cherry red color of the lips, the inability of the patient to hold his breath more than 40 seconds, and in the heightened respiratory rate upon the mildest sort of exertion. Hemoglobin transports oxygen best in an alkaline medium of the same concentration as the blood normally exists. If this concentration is reduced, then the hemoglobin will not take on as large a load of oxygen and give this up over-readily. Thus we see in these Graves' cases the dark red coloration of the mucous membranes, shaded with the slightest purplish tinge.

The respiratory centre is most sensitive to any increase in the acidity of the blood stream, and responds to such a stimulus by an increased rate of breathing. By increased pulmonary ventilation more of the acid  $\text{CO}_2$  is gotten rid of by the blood and the alkalinity increased. Patients showing a lowered alkaline reserve in the blood are unable, therefore, to long go without breathing because the accumulating acid  $\text{CO}_2$  arising from the constant tissue break-down is such a marked respiratory stimulant. Any muscular exertion is sufficient in such individuals to overtax the available lessened alkaline reserve, because of the immediate presence in the blood of the acid waste products of muscular activity. Hence the abnormal respiratory increase under these circumstances.

The severe cases of Graves' showing a degree of fever sometime during the day—a pulse rate of 120 while in bed, and the signs of lowered alkaline reserve—ought not to be subjected to immediate lobectomy. Various mild measures to reduce the amount of secreting thyroid substance must be undertaken. These must be adjusted to each individual case so as not to overtax them. Two to ten weeks are allowed to pass, until the

betterment will allow further procedure to be undertaken. These, in their order, are the injection into the gland of 5-10 drops of 50 per cent quinine and urea solution after the suggestion of Watson, the injection of boiling water 25-50 cc advocated by Porter, and, third, the ligation of the superior thyroid arteries with their accompanying sympathetic nerves. Both Asher, of Berne, and Beebe, of New York, have shown that the thyroid can be activated by stimulation of these sympathetic fibres. Changes in the thyroid are not entirely dependent on the nerve supply, however, for Marine has shown that hyperplastic thyroid transplants with severed nerve connections can be involuted by giving the animal iodine.

The typical severe Graves' case has a much reduced reserve nervous energy. Their threshold to stimuli of any type whatever is exceptionally low. There have been cases reported of these severely sick people who were killed by fright alone. Others have died as a result of the trauma of a broken leg. Realizing these factors in the surgical treatment of the disease, we have tried in every way to protect them from both fear and trauma. The psychical factor of fear is done away with by operating upon them without their knowledge, having previously obtained their consent. This is managed by giving them inhalation treatments of oxygen from the gas machine and sterile hypodermics under the guise of "treatment." On the day set for operation, they receive a hypodermic of morphine and scopolamine, and the nitrous oxide is gradually added to the oxygen inhalation, so they reach unconsciousness without fully realizing it, because of the mental dulling following the hypodermic medication. They are transported to the operating room under full anesthesia, where their operation is done, after first thoroughly blocking all tissues that are to be cut, so as to avoid the deleterious action of trauma to their system.

It has been the practice to take out four-fifths of the thyroid in the severe cases. The tendency is to increase the amount of this resection, rather than to diminish it. We have never yet seen a case of postoperative myxedema from this radical procedure. On the other hand, those cases where there has not been sufficient of the gland removed may return for a second operation. Those cases where myxedema is supposed to have devel-



oped after a severe Graves' are usually still suffering from thyroid intoxication. The clinical signs of the overactive thyroid are: the yet persistent force of the heart-beat and the palpable pulsation in the thyroid vessels. These people are benefited by further thyroid removal.

Those cases showing localized adenomata, with symptoms of intoxication, are discouraging from the medical treatment standpoint. They should be subjected to operation without first trying medical treatment. In the large, colloid goitre compressing the trachea, it is wise to leave the lateral attachment of the posterior part of the thyroid to either side of the trachea in order to prevent its collapse, which is prone to occur unless it is supported in this way. Twenty-four hours after operation, in cases where there has been tracheal compression, they are troubled by the collection of mucous in the larynx and trachea. This is the dangerous period of difficult inspiration, when collapse occurs unless support is left for the windpipe.

In the cases with high blood pressure, showing marked myocarditis and a colloid goitre, we aim to support the heart muscle by a course of digitalis immediately preceding the operation. The danger in these elderly individuals arises primarily from the condition of the heart, and we have found by this procedure that operation is a safe undertaking in such individuals, in spite of their high pressure. Some of our most gratifying results have been in the amount of comfort these people have obtained from their symptoms, which were cardiac, and of the central nervous system.

By following the treatment outlined above, we think we are able to return the patient to his duties in society, subjecting him to the least amount of damage to his organism, saving him in relation to the time of illness and disability, and with the greatest prospect of an ultimate cure. Graves' patients operated on are put in a position where they can recuperate. They further undergo a rest cure, so that they may become ultimately entirely well. Realizing the damage done to the central nervous system by the pathological action of the thyroid, one can see how necessary postoperative rest is to the ultimate cure of a tired-out nervous system.

### End Results

In the severe Graves' cases, this depends entirely on the amount of damage already sustained by the central nervous system and heart. If operated on within the first two or three months of the inception of their disease, 95 per cent are cured, provided they are willing to take a rest after their operation. In case a severe Graves' progresses for several years, the percentage of cure drops proportionately with the amount of damage already done to the patient's organism.

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**Health Insurance.**—In response to public interest in health insurance, the Massachusetts Legislature has created a commission to study social insurance with special reference to sickness. The state department of health and the bureau of statistics are directed to co-operate with the commission of nine members, which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar state commission already at work on this problem which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York and New Jersey. Proponents of this legislation believe it will bring about a movement for "health first" comparable to the safety first campaign which followed workmen's compensation for accidents.—*Bulletin N. Y. Dept. Health.*

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**Increased Medical Staff in the Army.**—"The House, debating the bill for the reorganization of the army, brought before it by the House military committee, has adopted an amendment granting a provision aside for the surgeon-general of the army providing for seven medical officers per thousand of line troops. Such a step is an advance in medical organization. It is in response to the achievements of military hygiene and to the appreciation, by the public at large, of the economic value of sanitation to which it has been educated within the last decade. The work of the Dodge commission, which investigated the conduct of the war with Spain, still bears fruit. The reorganization of the Medical Department in 1908 was based largely on the results of this report, and the provision affecting the personnel also find its warrant in this report. The determination of the strength of the personnel on a percentage basis is eminently a correct one, and in any increase in the army which might occur, automatically carries with it a proportionate increase in the Medical Corps. Even the pacifist can have no objection to the increase of the scientific and non-combatant corps, charged, as it is, with the conservation of human life in the army; the militarist and economist certainly should welcome any agency which conserves the physical well-being of the trained soldier. That an efficient and sufficient Medical Department can do this, and does do this, is being demonstrated today in Europe. Indeed, it is a question whether any people as intelligent as those of the United States would again tolerate, even for a few brief weeks, the conditions which prevailed in the mobilization camps in the United States during the Spanish War. "The sanitary era has arrived," says the *The Journal of the American Medical Association*, "and the action of the military committee is merely recognition which has arrived in the army, as well as in civil life. This is something in which the medical profession of the country at large is vitally interested. It believes that the lessons of the Spanish War should be fully considered in any reorganization of the army."

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## REGIONAL HYPERTONUS

By LESTER TAYLOR, M. D., Cleveland

In reading the voluminous literature dealing with Blood Pressure and its vagaries, one finds constant and exhaustive reference to the phenomena of regional vaso-motor tonus. Some common expressions of these regional changes are familiar to every one. Fainting, blushing, sweating, the erythemas of heat, and the pallor of cold, are evidences of such changes.

We know that this liability of our vascular system is necessary for our normal life. The blood of the body is totally unable to support the active functioning of all the organs simultaneously and in our vaso-motor system we recognize a finely adjusted mechanism to adapt the supply of blood to the demand of various distant parts. Resistance is increased here and lowered there and the mass of blood is shunted from splanchnics to brain, to muscle, to skin, wherever the call comes for extra work or there is need to regulate body temperature. Mayou with his army of imps, running to the stomach when one eats or to the brain when one thinks, gives us an ancient but true picture of our normal blood distribution.

In measuring the general blood pressure in the normal subject, we find marked variations depending upon many conditions. Our aim is to establish a standard for a given individual under constant conditions and in every case we must consider the nervous condition of the patient, the temperature, the posture, the relation to sleep, to meals, and various external stimuli which might influence the factors concerned in establishing blood pressure.

In the abnormal subject, however, the variations we know are much greater. Hypertonus is not alone a disease of the blood vessels themselves, but also represents a disturbance of nervous or vaso-motor control. The causes lying back of this state of general hypertonus we will not discuss here. The hypertonic artery is usually extremely sensitive, that is, the blood pressure readings in a case of renal hypertonus is subject to much greater variation than in a normal subject and for this reason it is harder to establish a constant in a given case. We must bear in mind that our readings represent the endovascular pressure plus the degree of resistance in the artery itself. Under normal conditions we know that this resistance varies, and under pathological con-

ditions this variation may be so marked as to give an entirely erroneous conception of the real endo-vascular pressure.

Not only does the normal pressure vary and the pathological pressure vary still more in response to changing conditions, but there is a third source of variation—local changes in individual arteries themselves. That is to say: With one cuff on the brachial artery we are measuring simply the endovascular pressure plus the resistance of the brachial artery alone, and this second factor the resistance may be so variable that we will secure entirely erroneous conceptions of the first factor—the endovascular pressure—which is what we are seeking. So that we may say under many conditions the arm cuff misleads us as to the general tone of the vascular system as well as the blood pressure itself.

The local or regional hypertonus has many clinical manifestations. We see it in the arterial spasm of migraine; the coronary spasm of angina pectoris; the cerebral spasm of transient apoplexy and aphasia; the spasms of the intestinal vessels in lead colic and the colic of dyspeptic babies; Basedow's disease; the various erythromelalgias; intermittent claudication; Raynaud's disease and possibly angio-neurotic oedema. All these are evidences of a local disturbance of vessel tone.

These same localized spasms can also affect vessels of the arms and legs without symptoms and may be demonstrated both clinically and experimentally. In 1909, C. F. Hoover showed that by immersing his left arm in ice water he was able to raise the reading of the manometer to 180 mm. of mercury, while the right arm showed 135 mm. The same results on dogs were obtained by Hirschfelder. The work of Russell in this field was long ignored, but he should have the credit of pointing the way to the recognition of this factor in our estimation of heart power. McWilliams and Kisson, working on excised arteries, showed that the factor of hypertrophic or sclerosed vessel wall at most will give only a change of 10 mms. in the cuff reading, while stimulation of the vaso-motor nerves running to these vessels may cause a difference of 100 mms. More recently the work of Brooks, consisting of experiments with rubber tubes of varying thickness, points more toward the sclerosis factor, but certainly clinical experience supports the former theory. Often the highest pressures will have no sclerosis, in the vessel, under the cuff, while pipe-stem arteries will register a lowered or nor-



mal pressure of the instrument. So in certain cases of hypertonus it is possible to show wide differences in various parts of the body. By these differences we do not mean variations in real endovascular pressure but rather inequalities in the degree of resistance in the arterial wall.

It is this factor which clinicians generally have ignored. They have made thousands of observations, all of them based on the brachial artery and with no reference to the condition of the other arteries of the body, satisfied that their readings are giving them real endovascular pressure plus a uniform assistance. The possible error here is easily seen in Case 1, where there is a difference of 85 mm. Hg. in the recorded systolic pressure of the right arm and leg.

We are satisfied, too, that the clinical evidence supports the physiological experiments in their belief in the presence of spinal vaso-motor centres—all more or less under central control in the normal man. But in abnormal conditions, either of spinal cord irritation direct, or of unusual local stimuli, these centers are capable of independent action, causing a pathological regional hypertonus. These may come about through a hyperexcitability of the vaso-motor nerves, a peripheral neuritis or local stimuli caused by any disease of the nervous system. In early tabetics where the irritative signs predominate, crises, muscle cramp, lightning pains, etc., this phenomenon is frequently seen. With this factor we must reckon and exclude it before drawing arbitrary conclusions in regard to endovascular pressure. To three such cases (the reader's) attention is directed:

*Case I.* M. G. Aged 27. Entered Lakeside Hospital June 11, 1912, the picture of an advanced chronic nephritis with extensive cardio-vascular disease. Patient was a marked albuminuric retinitis. The heart was hypertrophied and dilated, with a general venous stasis, large tender liver, ascites and oedema. The urine showed a specific gravity of 10.12, 5 Grms. of albumen per litre and rare renal elements, no blood. Phthalein showed a total of 18 per cent for two hours. The only unusual condition noted was in her blood pressure. In the Lakeside clinic all the large available arteries are palpated and the femoral artery, where it crosses the brim of the pelvis, is used to estimate the blood pressure. On palpating this artery the vessel seemed easily compressible and several men estimated the pressure manu-

ally and the highest guess recorded was 160 mms. On applying the cuff to the arm and leg a consistent pressure of 204 systolic and 110 diastolic was recorded. By means of the modified Sahli sphygmomanometer a direct reading was made from the femoral at the point where the manual examination had been made. The reading was 165 mm. for the systolic pressure—a reading consistent with the feeling of the arteries. The Sahli apparatus is a device whereby a hollow rubber ball is connected directly with the manometer. Pressure is then made through the bulb directly over the artery and the vessel either palpated or auscultated below exactly as with the cuff. The objection to the accuracy of the readings of this instrument lies in the size of the opposing surface—the same fault one finds with the narrow cuff causing the estimation to be too high. Then, too, we know that while blood pressure changes very little under ordinary circumstances, as we go from the center to the periphery, still whatever change there is tends to record a lowering the farther one goes from the heart. Here then we have a case with the usual order reversed and we find a systolic blood pressure of 205 in the tibial artery and proximal to that artery the femoral measures 165. This means that the real endovascular pressure was not 205 but nearer 165, and what we were measuring with the cuff was regional hypertonus.

On the following morning the femoral was found entirely different. It was compressible with great difficulty, felt full between beats and the instrument was consistent with the tibial and brachial. Until death we never found it again relaxed.

*Case II.* L. M. Admitted to Lakeside Hospital April 29, 1913. Patient was a woman of 31, extremely sick with a general sepsis associated with multiple abscess throughout the body. Her past history was of importance only as it gave adequate opportunity for a kidney disease; tonsillitis; rheumatic fever; endocarditis; cystitis. A Neisser and luetic infection formed the background for this latest infection. The heart was dilated from 7 c.m. to the right of the mid-sternal line in the 4th 1.5 to 15 c.m. to the left in the 7th 1.5. The cardiac action was irregular, the first sound replaced by a systolic murmur—( $p^{11} > A^{11}$ )—audible over the entire heart, in the axilla and back. Pulse, 140. The blood pressure in the right arm measured 115 systolic and 70 diastolic. The right femoral measured 190 and 130 dia-



stolic. The right tibial measured 200/30. Oedema and neuritis in the left leg made the use of the cuff impossible here. The left femoral was consistent with the right femoral to palpation. Here then is a condition of regional hypertonus involving both legs and yet not extensive enough to raise the pressure over the balance of the vascular bed. No study of the change could be made, as the patient died a few hours after admission.

*Case III.* L. G., aged 58, entered Lakeside Hospital March 7, 1913, complaining of pain under the left shoulder blade and between the shoulders. Seven years before admission a part of the thyroid gland was removed because of its size. There were no symptoms of a Basedow's disease. She was a high-strung, nervous woman who had been through various severe domestic and financial shocks, which had given her much cause for worry and loss of sleep.

For sixteen years prior to admission there had been periodic attacks of pain in the left interscapular region. These came on usually towards evening and when she was tired, giving her a sensation as though something was gripping her between the shoulders. She could bring on an attack at will by lying on her back or turning slightly to the right. These attacks could be relieved by sitting up or turning to the left side. Aside from the single local pain she was perfectly well.

The physical examination was negative, showing no palpable sclerosis of the available arteries and no cardiac enlargement. The urine was clear, pale straw; specific gravity, 10:30. No sugar or albumen. There was an increase in phosphates. No renal elements or blood in the sediment.

The blood pressure at 5:30 P. M. on March 7th was 185 systolic, 120 diastolic in the right brachial artery; 180-125 in the left brachial, and in the leg; 140 mm. on the right side, and 150 mm. on the left. Patient was in pain.

The following tables give the record of two typical experiments with this patient. Experiments which were frequently repeated and had uniformly produced the same results:

	<i>Rt. Brachial</i>	<i>L. Brachial</i>	<i>Rt. Femoral</i>	<i>L. Femoral</i>	<i>Pain</i>
7:30 P. M.	145-95	135-97	130	136	None
8:25	168-110	(1 drop Spirits of Glonoin given)			Moderate
8:30	148-98	(2 drops of Glonoin caused buzzing ing in the ears and flushing)			None
8:35	135-105	135-105	(sitting up)		None
On lying down		158-100			Pain
On changing to side		125-88			Complete
Again lying on back		158-108			Moderate pain
Changing to side		135-90			Relief
MARCH 9TH.					
3:00 P. M.		154-98			No pain
9:00 P. M.		180-110			Severe
Glonoin Gtts. 11.		160-100			Moderate
5 minuter later,		140-90			Partial
Glonoin Gtts. 1.		135-85			None
10 minutes later		142-100			Moderate

Repeated determinations with the cuff on the leg gave readings varying from 125 mms. to 140 mm. Hg., which would seem to me to represent more nearly the real endovascular pressure. Added to this came these transient attacks of hypertonus in the arms and probably also of some of the thoracic vessels, causing these severe pains. During three attacks the pressure in the legs remained the same. Only once was this pressure in the leg above 140 mm. Hg. and at that time the systolic pressure in the arms was high, although the diastolic pressure was low and the patient was comfortable. On analyzing the observations on the blood pressure we see at once a definite relation between the pain and the regional hypertonus. At no time did the patient complain of pain when the diastolic pressure was low, and on the other hand when the pain was present there was always an elevation of the diastolic pressure in the arms. The fact that the pain was relieved by nitroglycerin would indicate that the regional spasm preceded the pain and was not caused by the pain. As to the cause of the spasm we have no basis for speculation. At the present writing the patient is comfortable and free from pain under the regular use of small doses of spirits of glonoin.

If, then, these cases are fair clinical samples of a condition physiology tells us is perfectly possible, we must be continually on the alert to detect such local vascular spasms. This does not mean that all the peripheral arteries should be measured with an instrument as a routine in every case, but it does mean that the physician should continually palpate the carotids, brachial, radial, femoral, popliteal and tibial arteries on both sides and determine



not only the systolic pressure but also the condition of the vessel during diastole, how well it empties between beats and the length of diastole. In judging pressure by palpation the femoral artery offers the largest available surface and it is here that the smallest variations may be detected. Inconsistencies between arm and leg pressure will be frequently suggested and then may be tested and measured by the instrument. Attention to this factor in clinical practice will clear up here and there some of our obscure headaches, "neuralgias" and "rheumatisms." The relief afforded such patients amply justifies the addition to our examination routine.

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**Cancer Treatment.**—H. H. Hazen, Washington, D. C. (*Journal A. M. A.*, June 10, 1916), speaking of the propaganda for the prevention of cancer, says that, though unquestionably many more persons are now consulting the dermatologist and surgeon in time, the situation is yet far from being perfect, as he illustrates by cases of his own observation. During the past three years he has had thirty-two patients consult him for malignant conditions of the skin or oral mucous membranes, but only six of these consulted him before malignant disease was obvious, and of these he gives the particulars without reporting regular case records of them. He says that in view of the very bad way in which at least three of the cases were handled, one must naturally wonder whether or not some of the so-called radium experts are not on the same plane with nostrum advertisers, and if there is any difference it is that they are the more dangerous. The public is not yet sufficiently educated as to the importance of attending to nonhealing superficial sores, and while one must admit that some cases are difficult to diagnose, a good many more of them are unrecognized. Many cases are not treated radically enough, when insufficient treatment of any kind is the worst possible thing for the patient. Radium, even in large doses and administered by its greatest advocates, is by no means infallible even in the superficial cases it is claimed to cure.

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**Prescription Writing.**—Bernard Fantus, Chicago (*Journal A. M. A.*, May 27, 1916), advocates the use of the English language exclusively in prescription writing. While none of the arguments in favor of Latin prescription writing can be said to be irrefutable, there are a number of arguments in favor of English prescription writing which deserve consideration. The Roman numerals, especially I and L, are especially liable to cause mistakes, while our common numerals are very distinct. Few of us are able to write good Latin prescriptions, and almost universally directions are given in English. New drugs requiring new names are constantly being introduced, and Fantus thinks it probable that the fear of making mistakes in the Latin form is a largely contributing cause of the disguising of the ready made formula. Most of us would be unwilling to have our ability criticized by some one well versed in the language, and by far the most important reason of all reasons for writing in English is the difficulty that most students have in learning the Latin form. The real reason for the Latin writing is historical, and it is at present a burden. The results of a questionnaire sent out to boards of health, physicians and faculties, are given, showing considerable difference of opinion, but the great majority agree with the author. Of state boards sixteen were in favor of use of English, and only three, Illinois, Iowa and New Jersey, oppose so far as heard from.

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M.D., Cleveland

**The Use of the Pessary:** With the advance of gynecologic surgery in the past twenty-five years the use of the pessary in the treatment of pelvic conditions in women has become greatly diminished. There is, however, a very distinct field of usefulness for this appliance, the application of which to the proper cases is a matter of accurate knowledge of the existing condition and demands considerable experience in differentiating cases as well as in the use of pessaries.

At the outset, several rules might be given for application in the use of pessaries. Of the hundreds of shapes and varieties that have been contributed to this branch of medicine, many are worse than useless, and it is preferable to have on hand one or two shapes of proven value, in at least six sizes, as a great deal depends upon the pessary being properly fitted. The Smith-Hodge pessary is probably the most generally applicable and has given almost universal satisfaction. When these rings are inserted it is most important that they are selected to fit the individual needs; the pessary should be large enough to span the diastasis of the muscles making up the pelvic floor, its posterior edge should come well up on the posterior cervical wall and its anterior end should not pinch the urethra or project from the vaginal orifice. The woman wearing a pessary should be unaware of the fact so far as discomfort is concerned. If the ring is too large it will be painful or uncomfortable, and if too small, it will not stay in proper position, but will rotate laterally and vertically or fall out entirely. Also, if too large and undue pressure is made on the cervix or vaginal wall, ulceration not infrequently results, and if too small, the required support is not furnished and no beneficial results follow. Pessaries should only be used when the uterus can be replaced in proper position and in the absence of any inflammatory trouble, which will often be aggravated if existing even in a chronic or subacute state. If the fundus is adherent or for mechanical reasons it cannot be replaced bimanually, the knee-chest position with traction on the cervix by means of a tenaculum and tampons applied snugly and well posteriorly, will frequently, after a longer or shorter time, so push the fundus upward that it may be placed and held in correct position by a well fitting pessary.



Patients wearing pessaries should be examined once a month and the ring changed. They should be instructed to use a cleansing douche at least every other day, as not infrequently the normal secretions of the tract are materially increased. Proper introduction of the pessary cannot be done by the patient herself and such attempts on her part should be prohibited.

Of the several groups of cases in which pessary treatment is followed by good results, the most important are those having to do with the reproductive process. Retroflexed or retroverted uteri will occasionally become incarcerated if the position is not corrected before the organ is too large to pass the promontory of the sacrum. It is a wise provision, when possible, to examine the woman between the fourth and sixth week of her pregnancy; many women come for a diagnosis of pregnancy at this time anyway, and if a posterior position of the fundus is found and can be corrected, this should be done, even though tamponade is necessary to get the fundus forward and realizing that such treatment is occasionally followed by abortion. At this examination the diagonal conjugate can be taken and the patient spared another vaginal examination at the time of her pelvic mensuration.

All puerperal women should be examined first about three weeks post-partum and if the fundus is back in the pelvis it can be brought forward and held so with a properly fitting ring. If the uterus is not well involuted and is found large and boggy, a pessary will, by its support, take the strain off the several suspensory ligaments and diminish the possibility of subsequent descensus or prolapse. These women should be examined again at about the third month postpartum, for a fundus forward at the third week may be found back in the pelvis after this length of time, in which case it can be brought forward and held in position for several months by wearing a pessary, after which the position will be maintained permanently.

Posterior positions are frequently seen not associated with the pregnant state, except, perhaps, etiologically. These patients may have no symptoms and the condition be discovered accidentally, in which case the uterus should be left alone. If there are symptoms, however, one must constantly guard against incorrectly attributing the symptoms to the position of the uterus, for otherwise after the hurried operation of some type of suspension the patient will all too frequently be found to have the

same and additional symptoms. An extremely wise precaution is to correct the uterine malposition with a pessary and see whether the patient obtains the relief desired. If she does not, we may eliminate the position of her uterus as the etiological factor of her symptoms and turn our attention in another direction. However, if relief is obtained by the pessary treatment and other circumstances permit of operative correction, such is quite justifiable.

Old age in itself is not a contraindication to operative interference, but when associated with arteriosclerosis or other conditions rendering the case a poor risk it should be avoided, also in tuberculosis, diabetes, Graves' disease, lowered resistance or other conditions which would forbid a radical surgical procedure.

The working class tolerate operative interference better than do others, and since they neither have the time or means for protracted pessary treatment, which indeed should always be avoided whenever possible with any class, they can be subjected more frequently and earlier to radical procedures. In virgins a rectal examination will furnish the desired information regarding the uterine position, and if out of place, a pessary should be fitted under anaesthesia. If relief follows, a suspension is far preferable to continued pessary treatment.

To the operative class unquestionably fall the rectocele, cystocele and prolapse cases whenever such procedure is possible. Any relief afforded in these conditions by pessary treatment is but temporary and certainly lasts no longer than does the pessary. A word of warning might be given condemning pessaries in second and third degree prolapse. As a rule the outlet is relaxed and a large size pessary necessary to give any support. If the uterus is small, it may with the bladder, prolapse through the pessary and become strangulated. The writer has seen two such cases recently and can assure the reader that the condition is anything but a simple one to correct.

A word in closing concerning the cervical pessaries. They should be of non-corroding material, permitting of sterilization by boiling, and be of such design as to permit of free drainage as well as retaining their position until removed. The Carston's stem pessary answers these requirements and has proven very satisfactory.



Dysmenorrhoea and sterility when due to acute antifixion or cervical stenosis are the only two conditions in which stem pessaries will be found of any particular advantage. Here they give very excellent results. The cervix should be thoroughly dilated under anaesthesia, the pessary inserted and allowed to remain in place for as long as six months. No harm has ever been known by the writer to follow such a practice, whereas wearing the pessary for a much shorter time is frequently followed by poor results.

Osborne Building.

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**Pediatric Department.**—A development of the pediatric department of a university and medical school is discussed by W. P. Lucas, San Francisco (*Journal A. M. A.*, April 8, 1916). At first limited to the field of infant feeding, it has developed into other fields, laboratory, hospital and social, and new and wider fields for investigation and teaching are being opened. Among the lines which can be cultivated as subjects for research work are the questions of mental defectiveness in children, and he points very clearly to a close relation between the medical field and the economic department of social economics. Workers in the latter line must be trained thoroughly from the medical standpoint. The department of education is another natural point of contact with pediatrics, as is also the department of physical culture, and the subjects of nutrition and dietetics. The larger community problems, such as those of infectious and contagious diseases to which children are the most liable, call for close co-operation of hospital and laboratory and all public and quasipublic institutions. A point of contact as yet not thoroughly considered, but which is of special importance, especially in a State university, is that with juvenile courts, State reformatories and homes for feeble-minded children, and this has been, as yet, taken up very little by the medical schools. A still wider application of the work can be carried out by connection with school boards, where the problem of the backward child or other educational problems arise. It is therefore incumbent to have medical schools offer fully as wide and practical a field for their students as possible. The physician today who goes out to practice without realizing the broader problems and fields of usefulness open to medicine is not only incompletely informed but is handicapped in the advance of his profession.

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**Nebraska State Medical Journal.**—At its last meeting, the Nebraska State Medical Association voted to publish its own journal, and the first number is now received. Dr. Irvin S. Cutter, Omaha, is editor, and Dr. Joseph M. Aiken, secretary of the State Association, is business manager. The new journal makes a neat appearance. One wonders why the word "State" should have been inserted in the title. "*Nebraska Medical Journal*" would be shorter and more euphonious and would tell all that the publication represents. This is, however, a minor criticism. There are now twenty-nine state-owned journals representing thirty-three State Associations. With the exception of the *Illinois Medical Journal*, all limit their advertising of proprietary medicines to those accepted by the Council on Pharmacy and Chemistry of the American Medical Association. As stated above, thirty-three State Associations are now journalizing their transactions. Those who look back to that time when a single more or less bulky volume of *Transactions* was issued anywhere from four to ten months after the annual meeting—then usually "shelved" unopened—will appreciate the tremendous advance that has been made by the constituent associations in this respect.

## NEUROLOGICAL REVIEWS

By T. S. KEYSER, M. D., Cleveland

*Synkinesis in Hemiplegics. Pierre Marie and Ch. Foix, Revue Neurologique, January, 1916.*

The word synkinesis was coined by Vulpian to designate involuntary and often unconscious movements produced on the occasion of other conscious voluntary movements.

Marie classifies synkinesis into three groups:

1. Spasmodic synkinesis.
2. Imitation synkinesis.
3. Synkinesis of co-ordination.

The most important and common variety, as well as the type most easily recognized, belongs to the first group. The phenomenon is elicited by having the patient perform some movement of the sound side to which opposition is offered. Such movements usually evoke a movement on the paralyzed side of clenching the fist, flexion or extension of the forearm or of the leg, and abduction or adduction of the arm. For each individual the synkinetic movements are always the same on repeated examination. The general rule is that the movement of the paralyzed side corresponds to the habitual type of contracture in a given individual. The usual type consists of flexion of the arm and extension of the leg.

The English definition of synkinesis—any voluntary or reflex movement in a paralyzed part excited by a corresponding movement in a non-paralyzed part—gives a wrong impression of the spasmodic form of synkinesis. Any voluntary effort of the sound side, e. g., flexion or extension, always leads to the same involuntary movement of the paralyzed side, this result depending on the type of contracture of the paralyzed muscles.

Under the term "synkinesis of imitation," Marie includes the contralateral movements, which are identical and symmetrical, that is, the type of synkinesis which most authors consider the most frequent and characteristic. On the contrary, this variety is most unusual and indefinite, the majority of examples described really being of the spasmodic type.

Under the term of "imitative synkinesis," Marie places that group of symmetrical and identical contralateral movements which constitute the type which most authors have considered to be true synkinesis. This type is really very unusual and less easily elicited



than the spasmodic variety. In normal individuals, symmetrical movements are more easily executed than asymmetrical. As distinguished from spasmodic synkinesis, the imitative variety is more often obtained on the sound side in hemiplegics when an effort is made to move the extremities of the affected side. For example, if one command the patient to flex the fingers of the paralyzed side, one observes the identical movement executed unconsciously on the sound side. Such movements are easily inhibited by the patient by volitional effort when his attention is directed to them.

Synkinesis of co-ordination, in hemiplegics, consists of the involuntary contraction of groups of muscles, functionally synkinetic, induced by various voluntary movements. It tends to reproduce the normal co-ordinative movements, especially those considered as automatic movements controlled by the inferior nervous mechanism. This form of synkinesis may be observed in one extremity alone, from one limb to another, or from the trunk or head to the extremities. The more common varieties may be mentioned. A patient with a cerebral hemiplegia, who cannot flex the foot dorsally but is able to flex the leg and thigh, is asked to perform the latter movement. It is observed that the foot is dorsally flexed and slightly adducted, although this movement is voluntarily impossible. The phenomenon is known by the term "Strumpell's sign." The patient is incapable of preventing this synkinetic movement by an effort of the will. If a hemiplegic attempts to bend the trunk forward, flexion of the paralyzed lower extremities results. Similarly voluntary extension of the foot, leg, or thigh usually induces involuntary extension of the entire lower extremity. Usually synkinesis of flexion is accompanied by extension of the toes, while synkinesis of extension leads to flexion of the toes.

When a normal individual, while standing, flexes the thigh, the movement is performed without abduction or adduction. The hemiplegic, on the other hand, usually tends to turn the knee outward or abduct it. The phenomenon is essentially a sign of an organic lesion of the pyramidal tract.

In hemiplegics it is quite frequent to observe complete paralysis of the muscles of the hand with a partial paralysis of the muscles of the arm. If such a patient raises the arm, extension of the

paralyzed fingers is observed. Souques first described this, for which he offered the term "the digital phenomenon." At times, however, flexion of the fingers occurs.

Elevation of the shoulders on the paralyzed side usually provokes abduction of the upper arm with pronation and flexion of the forearm. Drooping the shoulders, on the other hand, leads to abduction and supination. Flexion of the forearm often results in abduction of the upper arm, corresponding to the flexion abduction phenomenon of the lower extremity mentioned above. In hemiplegics, movements of one finger are usually associated with corresponding movements of the other fingers, which are simply exaggerated movements of normal co-ordination.

The authors next consider the synkinesis of co-ordination involving two or more of the extremities. If one commands a hemiplegic to energetically flex the sound leg, opposing the movement, the paralyzed leg is extended and the toes usually flexed. Inversely energetic extension of the sound leg induces flexion of the paralyzed leg. At times the arms are also extended or flexed in association with flexion or extension of the sound leg. To this group of synkinesis belongs the phenomena described by Hoover. Allied to the contralateral reflex is the sign of Granet and Gausse, namely, the inability of a hemiplegic to elevate both lower extremities simultaneously.

The synkinesis of the upper extremities is so unusual and so complicated that a description of them is of little practical value.

In animals, movements of the head result in extension or flexion of the extremities. In cases of Little's Disease these same phenomena are usually obtained. In hemiplegics, turning of the head toward the paralyzed side causes extension and supination; toward the sound side, flexion and pronation of the affected arm.

Considerable practical value may be accredited to the various phenomena of synkinesis partially described above. With an adequate knowledge of these movements one is able to distinguish practically without question between organic and functional lesions. They are especially useful in cases of malingering, as no person would be able to imitate voluntarily the many complex reactions belonging to this interesting group of phenomena.



**CLINICAL LABORATORY METHODS**

By CLYDE L. CUMMER, M. D., Cleveland.

**Anterior Poliomyelitis.** At the time of the present epidemic in New York City the laboratory aids in the diagnosis of this disease assume considerable interest. Doctor Josephine B. Neal (*Jour. A. M. A.*, July 22, 1916, p. 312) of the New York Board of Health Laboratories has spoken of some of the laboratory methods which are of more practical usefulness. She says that in the early stages the spinal fluid is clear, rarely slightly cloudy. It often shows a good fibrin web formation. There is a slight or moderate increase of albumin and globulin and also of the cellular elements. The reduction of Fehling's solution is prompt. A differential count of the cells shows a polymorphonuclear leucocytosis which may run as high as 90%, but is usually about 60%. The general rule, however, is to find that 80% or more of the cells are mononuclear. The New York City Board of Health workers have frequently observed the presence of very large mononuclear cells which they believe, in a measure, to be characteristic of poliomyelitis. Two more rare types of spinal fluid sometimes occur when the hemorrhagic process has been more extensive than usual. The first of these is truly hemorrhagic in character, the red cells being evenly diffused throughout the field. Even when collected in successive tubes all specimens are equally hemorrhagic. The second of these rare fluids shows the syndrome of Froin. It is yellow in color and coagulates spontaneously. They call attention to the extreme importance of lumbar puncture as a method in early diagnosis.

**Preservation of Living Red-blood Cells.** Peyton Rous and J. R. Turner report in the *Journal of Experimental Medicine* (Vol. XXIII, No. 2, Feb. 1, 1916) from the laboratories of the Rockefeller Institute for Medical Research a method for the preservation of living red-blood cells in vitro. They call attention to the fact that there is practically no mention in the literature of attempts to keep red-blood cells alive for a long time in vitro, though methods for their preservation are certainly of much practical importance. Red blood cells have little of the ability to adjust themselves to changes in external conditions which is possessed by many somatic cells and unicellular organisms. If they are to be kept alive outside of the body it must be in what

the authors term "a state of suspended animation." The technique which they describe renders it possible to obtain the cells without clotting, to wash them without injury and to preserve them for a considerable period of time. They state that sheep cells treated in this manner have been kept for as long as three weeks or a month and have been used for the Wassermann reaction. They have been used in the Wassermann reaction and have been compared with cells obtained fresh from the same sheep. The hemolytic titre was the same and the same results were given in the reaction.

The method is as follows: One part of fresh blood is drawn into four parts of Locke's solution to which 1% sodium citrate has been added. The formula for Locke's solution which the writers employ was as follows:

Sodium chloride .....	9.2 gm.
Sodium bicarbonate .....	0.05 gm.
Potassium chloride .....	0.1 gm.
Calcium chloride .....	0.1 gm.
in 1000 c.c. of water.	

The cells were then centrifugalized at high speed, after which the supernatant fluid was pipetted off as completely as possible. The original volume was then restored with Locke's solution to which  $\frac{1}{8}\%$  of gelatin had been added. The mixture was then centrifugalized. The fluid was pipetted off. The cells were again suspended in the same fluid, centrifugalized for a second time and the fluid removed. The cells were then preserved by suspending them in Locke's solution to which sufficient isotonic (10.3%) saccharose solution has been added to make an ultimate concentration 2.8% of saccharose. (The sugar solution and the Locke's solution must be autoclaved separately.) (Add 271.8 c.c. of 10.3% saccharose solution to 728.2 c.c. of Locke's solution.)

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## PUBLIC HEALTH NEWS

From Bureau of Health Education, Division of Public Health

DR. R. H. BISHOP, Jr., Commissioner

J. D. HALLIDAY, Chief of Bureau

With the opening of the city's schools but a few weeks away, Doctor Martin Friedrich, Chief of the Bureau of Communicable Diseases, reports danger of an epidemic of diphtheria.

Examination of some 400 children in the Jewish Orphans' Asylum has revealed 22 "carriers."

To prevent the spread of this disease, as well as measles, scarlet fever and whooping cough, at the time that the schools open physicians are asked to co-operate in every way possible with the Health Department in detecting and reporting cases.

It is particularly requested that physicians in contact with families of children where the presence of diphtheria is suspected take cultures for tests in the Health Department laboratories with the idea of quickly locating "carriers."

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### Criminal Practice Cropping Out

In an effort to crush criminal practice which reports and evidence indicates is growing in volume in this city, the Health Department is now closely following up every clew to suspected cases.

One man has already been convicted and sentenced and the decision and determination with which this particular case was prosecuted is intended as a warning to others.

The Commissioner of Health seeks the co-operation of the profession in this campaign and physicians can aid by turning into this office any information they can gather concerning such cases.

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### Disease Prevention Week

A city-wide campaign for the prevention of disease is planned for the last week in September, which has been officially designated as Cleveland's "Disease Prevention Week" by Health Commissioner R. H. Bishop, Jr., and a central committee.

During this week it is planned to have distinctive programs and exercises carried out in every ward in the city under the direction of the councilmen from these wards.

The week's celebration will be brought to a close by a huge parade and pageant, at which a monster figure, symbolical of Disease, will be set afire by a torch in the hands of the mayor.

### **Epidemics as Teachers**

The situation New York City finds herself in and the battle being waged there against infantile paralysis by health authorities, public and private, is an example which shows the need of close co-operation on the part of the Health Department and private physicians if Cleveland is to escape the same experience.

Physicians are also urged to take notice that a physician's certificate, countersigned at the local Health Department, is required before parents will be allowed to take children into New York State.

Physicians are required to examine the children, make out a certificate or written statement to that effect and have it taken to the office of Commissioner of Health to be countersigned.

### **Tracing Typhoid Fever**

With twenty cases of typhoid fever reported since July 5, the Health Department is putting forth special efforts to trace the source of infection. Physicians are urged to be prompt in reporting all cases which come under their observation so that the department may early begin an investigation of each individual case.

### **City Serologist Opens Laboratory**

Cleveland's official serologist, Doctor J. G. Frey, has now opened his laboratory in the new City Hall. With complete modern equipment he is prepared to make free blood tests and expects to run from 50 to 100 a week. The tests are made free and reports are absolutely confidential. Physicians therefore are urged to take advantage of this service now offered by the city Health Department for the first time. Outfits for obtaining samples of blood, together with complete instructions and chart cards, will be found at the regular outfit stations of the Health Department.

### **Infantile Paralysis Pamphlet**

To meet the appeals of the people for information concerning infantile paralysis the Bureau of Health Education recently prepared a four-page folder of information, easily understood by the layman, concerning the dread disease. Copies of this pamphlet for distribution among his practice may be had free by any physician applying to the Bureau.



THE ANNUAL MEETING OF THE WESTERN RESERVE MEDICAL ALUMNI ASSOCIATION,  
UNIVERSITY CLUB, JUNE 9, 1916\*

The address of the President, Dr. F. C. Herrick, as follows:  
*Gentlemen of the Western Reserve Alumni Association:*

I have no prepared address for you tonight. We started out to see if we could make a living proposition out of this Alumni Association, a part of a living college—in fact what should be the most actively living part of an institution—its offspring. A mutual interest between parent and son results in the welfare of both. In this day of rapidly progressing scientific and practical medicine any medical college which loses interest in its graduates is ignoring *one* of its greatest obligations to society. The graduates go out into practice. It is well-nigh impossible for them to keep abreast of medical progress without frequent opportunities for inspection of recent work. Just as we find it is necessary to lengthen the years of medical training that a man may have time to grasp various lines of medicine so is some method necessary to keep past graduates posted in modern medical thought, theory and practice during the years after graduation. Again, we have learned in under-graduate work that book and didactic work alone can never make a physician, so in post graduate learning books and journals must be reinforced by clinical instruction; new methods demonstrated. The college which strives to take the product of its early efforts at medical education and keep these men abreast of the times in theory and practice is doing a great service to the profession and to the public. The more rapid the college's advance in methods and results the greater would its obligation seem.

I sincerely hope that this combination of medical schools of Cleveland's past medical life, may not permit the vision of its duty to be restricted within the narrow limits of undergraduate work, nor yet of post-graduate research work, but will appreciate its wonderful opportunity for becoming a broad educational center of medicine to which its graduates and perhaps those of other less fortunate schools will look for instruction.

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\*Editorial Note—Because of the great enthusiasm expressed over this meeting and the efforts put forth to interest the alumni, we have asked Dr. Herrick's permission to print his informal outline of possible growth for this association and the benefits to be derived therefrom.

At future meetings of this Association it might be well to discuss such subjects as the obligation of the medical school to its alumni; the obligation of the alumni to the medical school; the obligation of the alumni to each other and the obligation of the alumni to medical education in its own school and at large. This seems to be the broadest function of a medical alumni association in the light of an ever-changing science of medicine. I feel you will pardon me for not entering at this time upon any discussion of the above subjects for the work attendant upon the present hoped-for rejuvenation of this Association has been great and we feel but a small step has been taken toward making the graduates of Cleveland Medical Schools profit most from this Association.

Towards acquainting you with what is being done by other Medical Alumni Associations along this line, I wrote to ten of the largest medical schools in the country. The following were the questions sent with the replies as received:

1. Do you have annual meetings of your Alumni Association? Eight replies, all of them positive.

2. Do you have clinics, ward walks and demonstrations and for how many days? Of the seven affirmatives—one for one day, one for two days, three spent a week and two spent two weeks.

3. Approximately what is the annual attendance? This varied from 3 to 50% of the total alumni. The more active and better the clinical program the larger the attendance. The smaller percentages of attendance occurred in institutions that had a very large number of alumni, for instance, the University of Michigan with its 6,500. Detroit Medical College with an alumni list of 1,000 has from 50 to 55% return each year for two weeks of clinics.

5. Have you an alumni bulletin or publication? Six, yes; two, no.

6. Do you have annual dues and are they willingly paid? Do they include the bulletin? Five, yes; three, no. When dues were paid they included the bulletin in all cases.

7. As a result of your experience what factors are the most attractive to your alumni and the best drawing card to get them back to your annual meetings? Well arranged clinics, class meetings, and a good dinner were spoken of by practically all. But



one of the colleges has a quarterly meeting and that, a local one. This is the University of Pennsylvania. All govern their associations by executive committees with power to act. The Harvard Alumni Association has recently published quite a brochure comprising discussions by the alumni of problems of interest to the Alumni Association. Rush Medical College has in the last year started an active Alumni Association campaign. The objects of a bulletin were, manifestly, to keep the alumni posted regarding matters concerning their alma mater; the study of alumni interests; the development of post graduate teaching; and to strengthen the influence of men, who had a medical training, upon their alma mater and each other. Such men have accurate impressions of practical medicine and the proper training for it.

Your kind attendance on this occasion, fellow alumni, your interest and your enthusiasm and your willingness to help place this association on a permanent basis as shown by our business meeting, encourages me to feel that future meetings will be more enjoyable and wide-awake than the present one. We promise you that each year we will show you the best which the city affords in clinical and progressive medicine. We will try to engineer a few good meetings, discuss the above mentioned subjects and perhaps we will be in a position to see a still broader function for this group of medical alumni and to shape our course accordingly.

I herewith express for my fellow officers and myself many thanks for the kind appreciation of our efforts and the honor you have bestowed upon us in permitting us to fill these positions.

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After the annual dinner, business meeting was held as follows:

Reading of the minutes. Dr. Placak.

Treasurer's report. Dr. Berkes. Showing a balance of \$44.56 on hand after all expenses of publicity and entertainment had been paid.

Report of nominating committee—Dr. Spenser, Dr. Houck, Dr. Stoner, Dr. Follansbee, Dr. Bishop, as follows:

President—Dr. George E. Follansbee, '95.

First Vice-President—Chas. Greafe.

Second Vice-President—Jas. R. Firmin.

Secretary—C. L. Cummer, '07.

Treasurer—H. A. Berkes, '07.

Executive Committee—H. C. Luck, '94; W. E. Tuckerman, '05; Fred J. Wood, '02; A. Ruh, '85; F. C. Herrick, '97, chairman; J. G. Spenzer, '84; J. J. Thomas, '93.

Graduating class elected to membership.

Motion to place the annual dues of the association at \$1.00, passed.

Motion to elect an executive committee with full power to act in re-drafting the constitution, arranging for the annual clinics and entertainment for the coming year, to take up the question of the publication of a quarterly bulletin and outlining the objects and activities of the Association, passed.

Motion that the secretary cast a ballot for the officers as nominated, passed.

The announcement was made of the Western Reserve smoker to be held at the Detroit meeting of the A. M. A. at the Tuller Hotel Roof Garden.

Adjournment.

Presentation of the portraits of Dr. Weber and Dr. Powell.

In introducing Dr. Corlett the President spoke as follows:

"It is granted to some men to appear on the scene of activity when their abilities will be most strongly felt, when institutions are developing and the moulding of a master mind gives such institutions the greatest possibilities. Cleveland's educational medicine was in this formative condition after the Civil War. Of those most active at that time it becomes tonight our great pleasure to honor the memory of two. It is fitting that the portraits of both should be covered by the stars and stripes for one was a Surgeon General of Ohio, while the other was serving in the armies of the South. Regarding the former, I have the pleasure to introduce Dr. Corlett."

President Thwing accepted the portrait on behalf of the University.

In introducing Dr. Bill, the President spoke as follows:

"It has always seemed to me wonderfully courageous that a man should leave the armies of the South and make straight for the North; in fact to a center of the feeling against the South.



This courageousness, coupled with a peculiar quaint charm of courteous personality won the victory in the North. Regarding this man I take pleasure in presenting Dr. Bill."

President Thwing accepted the portrait in behalf of the University.

The address of the evening was presented by Dr. John B. Deaver, of Philadelphia. The subject: "The Training of the Surgeon."

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### HEALTH INSURANCE

Twenty-five out of every 1,000 employees in American industries, according to recent statistics, are constantly incapacitated by sickness, the average worker losing approximately nine days each year on this account. This "non-effective rate" for the great army of industrial workers in the United States barely suggests the total money loss to employers and employees. The lessened efficiency, the effects of reduced earnings in times of sickness, as well as the cost of medical attention, and the economic loss from deaths, swell the cost to industry and to the nation to almost incalculable figures.

That much of this loss is nothing less than preventable waste and that this waste can be largely reduced by a properly conducted system of governmental health insurance for wage-workers are conclusions set forth in Public Health Bulletin No. 76, containing the results of a study of "Health Insurance—Its Relation to the Public Health," just issued by the United States Public Health Service.

The preventive value of health insurance is given especial emphasis in this study. "Any system of health insurance for the United States or any State should at its inception have prevention of sickness as one of its fundamental purposes," says the bulletin. "This country should profit by the experience of European countries where prevention is being recognized as the central idea necessary to health insurance if health insurance is to attain its greatest success in improving the health and efficiency of the industrial population."

Such a system, it is pointed out in the bulletin, would—

1. Provide cash benefits and medical service for all wage-earners in times of sickness at much less cost than is now possible. Adequate medical relief would thus be placed within the reach of even the lowest paid workers who are most subject to ill-health.
2. Distribute the cost among employers, employees, and the public as the groups responsible for disease causing conditions and afford these groups a definite financial incentive for removing these conditions. This can be done by means of small weekly payments from employees, supplemented by proportionate contributions from employers and government at a rate reducible in proportion to the reduction of sickness.
3. Become an effective health measure by linking the co-operative efforts of the three responsible groups with the work of National, State and local health agencies, and by utilizing these agencies in the administration of the health insurance system.
4. Afford a better basis for the co-operation of the medical profession with public health agencies.
5. Eliminate the elements of paternalism and charity-giving by making employees and the public, as well as employers, joint agents in the control of this fund.

"A governmental system of health insurance," concludes the study, "can be adapted to American conditions, and when adapted will prove to be a health measure of extraordinary value."

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# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
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Reprints of articles will be furnished authors at a reasonable price.

All remittances to the Journal should be made payable to The Cleveland Medical Journal.

Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

Original articles are accepted for publication by this Journal only with the distinct understanding that they are contributed solely to this Journal and will not be published elsewhere as original.

## EDITORIAL

### THEODORE B. SACHS—MAN'S BENEFACTOR

It has been said "that we are here not to get all we can out of life for ourselves, but to try to make the lives of others happier." Theodore B. Sachs lived according to this doctrine.

Sachs was born in Russia in 1868. He studied law and later came to America. Amidst privations he studied medicine, grad-



uating in Chicago in 1895. His energy was continuously directed to the tuberculosis problem and it was through his splendid efforts that the Chicago Municipal Tuberculosis Sanitarium reached its high plane of development. Of this institution he was president and member of the board of directors. On March 20, 1916—because of conflict with the administration—Dr. Sachs resigned, saying in his letter to the mayor that “after ten months’ experience with the present administration, continuance of efficient service under the present conditions is practically impossible.”

The charges brought against Dr. Sachs, together with his departure from the institution, caused his unfortunate self-destruction.

Dr. Sachs was prominently linked with the advancement of anti-tuberculosis work in this country. It is a terrible misfortune that the work of a genius must go unappreciated because of the spoils system in politics.

On April 9, 1916, an audience which filled the auditorium paid tribute to the memory of Dr. Theodore B. Sachs. Dr. Frank Billings, who presided, spoke of the plan to erect a hospital to cost \$250,000 on the grounds of the Edward Sanitorium, Naperville, as a memorial to Dr. Sachs.

Despite his untimely end, the work of Dr. Sachs will be an enduring memorial. “Hence we have not with Homer accounted the physician as a price for the many, but have enrolled him among mortals as a terrestrial deity.”

H. S. F.

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**The First Hay Fever Ordinance.**—In a recent number of the *Bulletin* we commented on the claim which had been made that New Orleans was the first American city to adopt a hay fever ordinance providing for the cutting of weeds. We pointed out that the Board of Health of this Department had adopted such a law at least six months previously.

We are now in receipt of a courteous letter from the health authorities of Savannah calling attention to an ordinance providing for the removal of weeds and other rank vegetable growth, originally passed by the Council of the City of Savannah on August 28, 1900. This law was subsequently amended and in its present form dates from July 3, 1910. In substance, it provides that the owner of private property, or the agents, etc., upon notice from the health officer of the City of Savannah, shall cut and remove from such property in the city, weeds and other rank vegetable growth. Penalty for failure to comply is fixed at a fine of \$50, or imprisonment for thirty days or both.

Our hats off to the wide-awake authorities of Savannah!—*New York Health Bulletin*.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. MCGEE, M. D., Cleveland

**Therapeutics:** In the July number of the *American Journal of the Medical Sciences*, Oliver T. Osborne writes as to what therapy means. Therapy is not a sufficiently studied subject. Books on practice are very generally indefinite and rarely explain the details of treatment, unless it be that of an antitoxin or other brilliant specific. Most teachers of clinical medicine, though brilliant in diagnosis, and learned in pathology, glide over the therapy of disease. Hospital teaching is of necessity concerned with serious or unusual ailments, and terminal conditions of chronic disease. Even the acute illnesses, such as typhoid fever, pneumonia and the acute infections which reach the hospital, occur in a class of people who are very different from those seen in private practice, and in the latter the treatment and management must be very different from that carried out in the hospital. A large number of the most common illnesses, all of the serious conditions in their incipency and during the possible prevention period, a large number of psychic, neurotic, hysterical, functional, glandular, blood, muscle, joint and nerve disturbances must all be treated by the practising physician, but are never seen in the hospital, and not very satisfactorily in the dispensary. Hence these facts, and they are facts, necessitate a continuance of didactic teaching in therapeutics and in the specialties, as many conditions in the latter class never reach the hospital or the dispensary. Clinical surgery alone can be taught only in the hospitals and dispensaries, as a broken leg or an appendicitis are the same in the upper hundred as they are in the lower ten, and the surgical procedures are the same. He emphasizes the following aims of the treatment of any disease or condition: (1) Not to forget to use every means to prevent the spread of the contagion and the infection of others, if the disease is contagious. If not contagious, general hygiene and care of the secretions of the nose and mouth, and the excreta are always of more or less importance. (2) If the cause of a disease can be removed or actively combated, that is the part of the treatment that takes precedence of all others. (3) If the disease or its localization, or its lesion, or a simple condition as a cold or a headache, can be aborted, that is another primary object of treatment. (4) A lesion having occurred, the patient will not be well until it has disappeared, resolved, or been removed, and hence as soon as a lesion has been established it is the aim of all our science to eradicate it. (5) Whether or not the lesion can be successfully treated, objectionable or disturbing symptoms must be stopped or ameliorated. No one but the consultant and text-books can refuse to treat symptoms; the practising physician must and should treat symptoms; "symptomatic treatment" must be now recognized as of great importance under the new name of the "necessary treatment of symptoms." (6) Students are not sufficiently taught, and the practitioner does not often enough consider the disturbances of function due to or caused by the disease that is present. Just what disturbances may be present, of course, depends upon the disease, the lesion and the prominent symptoms, but it is an axiom that disturbances will occur, and they should be corrected if possible. (7) The diet must of necessity be modified by the intensity of the illness, the character of the illness, and the condition of the organs of digestion. (8) Of course, we wish to hasten convalescence, but have we always carefully enough studied our partially healed patients to scientifically decide just what rapidity in the complete recovery we should expect? Generally we have not done so. A too low systolic blood-pressure, below 105 m.m. in an adult, should prohibit his sitting up, and certainly his attempting to walk. Too many long, tedious heart weaknesses from strain occur after operations, and after severe illnesses, because patients are allowed to get up too soon. The appendix patient up and out in ten days is a cardiac and abdominal risk that should not be advocated.

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**Migraine:** B. K. Rachford, in the *New York Medical Journal* for June 24, presents a line of treatment for migraine which he believes, if faithfully carried out, will result in the cure of the great majority of cases of migraine and allied symptom groups. In beginning treatment of migraine and allied disorders it is important to search for the chronic reflex and toxic factors that may play a role in producing these symptom groups. It is especially important in the treatment of severe migraine that all pathological conditions which may be a source of chronic toxemia should be carefully sought for and, if possible, removed. The teeth, accessory sinuses of the nose, and the pelvic organs, including the prostate, are possible sources of such toxemias. The most important bit of dietetic advice that can be given to a migrainous patient is that he should not eat too much. It is wise to exclude such foods as experience has shown may be factors in the production of migraine and later on when this symptom group has been controlled by treatment, certain of these foods may be gradually returned to the diet list. Eggs in every form, even in cooked foods, should be absolutely forbidden. Experience has amply demonstrated the fact that certain cases of migraine may be cured by this one rule of diet. Sweets should for a time at least be almost if not quite eliminated from the diet. Shell fish of all kinds are to be excluded. Cream and butter should also be eliminated from the diet, and in certain cases it may be necessary for a time to exclude milk absolutely. Raw fruits and vegetables, especially oranges, strawberries, rhubarb and tomatoes are to be avoided, as well as tea and coffee, while alcohol, if at all, should be used in moderation. The following foods may be allowed: Beef, mutton, fowl, cereals, bread, all cooked vegetables not already proscribed, cooked fruits, skimmed milk, and thick soups. This dietetic treatment is to be followed for some weeks or months until the patient has apparently recovered. Then a relaxation of the dietetic treatment follows, until at the end of three or four months most of the proscribed foods excepting eggs may be given in moderate quantities. Later, if the patient remains well, eggs may be added carefully in small quantities to the diet. The patient should live out of doors as much as possible; that is to say, he should have the best air, night and day, consistent with his occupation. In beginning medical treatment it is advisable to keep the bowels open with some saline laxative. In children milk of magnesia may be used with advantage. In adults and older children he still uses and prefers a formula he has used for years:

**R** Sodii Sulphatis (dry).....gr. xxx;  
 Sodii Salicylatis (from wintergreen).....gr. x;  
 Magnesii Sulphatis .....gr. l;  
 Lithii benzoatis .....gr. v;  
 Tincturae Nucis Vomicae.....M iii;  
 Aquae distil., q. s. ad.....oz. IV  
 M. Ft. mist. Sig.

Take half an hour before breakfast a sufficient quantity to produce at least one bowel movement during the morning. The prescription is put up in siphons and charged with carbonic acid. It is of prime importance in all cases to give alkalies, of which the best and simplest is sodium bicarbonate in five or ten grain doses.

**Gastric Ulcer:** Doctor Fenton B. Turck, in the *Medical Record* for June 24th, states that all cases of ulcer of the stomach and duodenem are primarily cases for the internist. The role of the internist has not received the recognition it deserves, and even in such cases as seem to demand surgical preliminary treatment, except in emergencies, is a most valuable and necessary factor in the problem. The evidences are fast accumulating and give weight to the statement that

operation should be reserved for those cases in which it is clearly indicated because of mechanical obstruction, not functional resistance. The cure of ulcer remains a biological or physiological problem, and to the clinician the cure is a very practical problem as well. Turck is opposed to the routine treatment of instituting after a short period of fasting a diet of cold milk and eggs in small quantities every hour, these amounts being gradually increased and later sugar, rice, scraped beef, etc., being added as advocated by Lenhartz. He opposes frequent feeding with the one or two meal a day system. With the two meal method the caloric need of the body is better satisfied, and incidentally the patient's appetite and general comfort is spared the insult of an interminable series of feedings. As regards the food given he has felt that eggs are not well borne, from their tendency to putrefy in the intestine just at the time when it is most desirable to maintain adequate function of the colon. Milk as a dietary basis does not enter his scheme of treatment. He requires rest in bed for the first two weeks and advises it for the third. There is a preliminary period of three days' fast, during which small amounts of water may be allowed. On the fourth day a single meal of about 800 c.c. of corn starch gruel is allowed; following this the patient is given two meals a day with gradually increasing amounts of rice, steamed vegetables and hydrolized meat. When meat is allowed, early in the second week, the extractives must first be removed by soaking the ground meat in cold water for twelve hours, then by pressing out the juice and discarding it. This removes the meat extractives and the meat pulp remaining is placed in boiling water and steamed for one or two hours until the connective tissue is hydrolyzed to gelatine, the larger part of extractives removed, and the stearin fat, so difficult of digestion, driven off. Among non-surgical procedures he advises continuous drainage from the stomach by the use of a tube filter, which he devised and used since 1894. On account of the tendency of ordinary lavage to increase atony of the stomach its use is limited. Gastric lavage with silver nitrate is very helpful in cases of ulcer with high acidity. As to drugs, atropine, as it controls hypersecretion, is useful. Januschke shows that atropine stops spasm, while anesthesin will lessen the pain, while papaverine will save the mucous membrane from irritation, giving the ulcer a chance to heal. Bismuth is successfully used for its local effect.

**Diabetes:** The June number of the *Therapeutic Gazette* considers editorially diabetes under the heading of the Allen treatment of diabetes and caution. Like many plans the Allen treatment is not entirely original, differing only from temporary starvation of the diabetic in that the starvation is more rigorous and that it is instituted at once in its most severe form. The most serious problem in a case of diabetes is not so much the large amount of sugar which may be eliminated, as the degree to which the secondary compensatory but nevertheless destructive processes are carried out. It is essential for the safe and proper treatment of every case of diabetes that he should remain upon his ordinary diet until the physician, by daily examination of the twenty-four hours urine, obtains a clear conception of the average amount of sugar loss and determines whether the ketone bodies which are associated with acidosis are present, and if so, in what relative quantities, since acetone shows that the body oxidizes oxybutyric acid into diacetic acid, and then into acetone, whereas if oxybutyric acid is found in the urine it indicates that the oxidizing power of the body is unable to reduce this poisonous substance into innocuous acetone. The physician, thus gaining a conception of the status of the patient in relation to his disease, can then institute such dietetic rules as will fit the particular individual, and still continuing his examinations, be able to compare the results obtained with the standards reached in the first days of observation. To their minds Allen's proposition, which ignores these facts, jeopardizes a certain number of patients. They have more than once seen the institution of a strict antidiabetic diet plunge



the patient from a condition of fair health into diabetic coma within a day or two. They think it also a good rule and practice to recognize the fact that no one routine method of treatment can be employed in all patients suffering from the same disease, since what suits one may be quite improper or ill-advised for another. In other words, the recommendation that the Allen treatment be instituted promptly in every case they believe unfortunate and unwise. The report of Joslin, Brigham and Hornor is noted, in which fourteen cases of diabetes mellitus were successfully treated by fasting. The point made and emphasized is not that the Allen treatment of fasting diabetics is essentially erroneous or that it will not in a large number of cases produce excellent results, but that it cannot be applied haphazard in all cases and that if so applied it will sometimes induce disaster, for every case of diabetes should be approached by the physician "reverently, discreetly and in the fear of God."

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**Calendula:** William M. Gregory, in the *N. Y. Medical Journal* for July 8, calls attention to calendula as a trustworthy nonpoisonous antiseptic. He believes it is a good time to remind the entire medical profession, and especially the surgical end of it, that calendula will kill all pus germs. As the drug may not be familiar to some, he says that he refers to the nonalcoholic fluid extract of calendula, the *calendula officinalis*, the common or garden marigold. He has done a good deal of accident and emergency surgery and has had some exceedingly filthy wounds to treat, caused by railroad and stone quarry accidents, contaminated by coal dust, machine oil and dirty clothing, and not one ever produced a drop of pus when dressed with a good extract of calendula. Extensive burns, if dressed with calendula and saturated solution of boric acid, will remain perfectly clean and sterile till healing is complete. Besides its antiseptic qualities, calendula alleviates the pain of burns better, he asserts, than any other remedy. It is so much better than dilute picric acid that any one who has used it for burns will never care to use the acid. He states that the calendula has absolutely inhibited pus formation in every wound that he has ever dressed with it. He frankly states that he cannot explain its action; it is nonpoisonous, often used internally, and is the best remedy he has ever found for a certain very acute and inflammatory type of gastric catarrh. In a case, for instance, of a badly wrenched or bruised knee joint, two ounces of concentrated extract of calendula, six drams of lead acetate, to one pint of hot water, applied on compresses of absorbent cotton, will work wonders. The lotion must be applied very hot and the compresses changed before they get cold. He also uses this treatment in certain forms of erysipelas, adding a saturated solution of boric acid. He insists upon the use of a reliable preparation, as many have discarded the drug as useless while the fault lay in the character of the preparation employed.

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**Epilepsy:** Wm. T. Shanahan, in the July number of the *Medical Review of Reviews*, writes concerning the limited value of the bromides in epilepsy. Since the use of bromides in the treatment of epilepsy was first advocated, benefit has been obtained in some epileptics by its intelligent use, whereas an untold amount of harm has resulted in a vast number of epileptics, consequent upon indiscriminate administration of various bromide preparations. He feels as do many others in regard to the bromides, that they have a much narrower field of usefulness than is ordinarily held. The effects of the bromides on the mentality of the individual receiving them is oftentimes such that in many instances permanent damage has been done. The bromides act as irritants to the gastrointestinal tract, and interference with the functions of nervous system as manifested by incoordination, disturbances of speech, etc., are also often observed. When bromides are used, bromism is not necessary to obtain the physiological effects looked for. Hand in hand with the administra-

tion of the bromides can be carried out common sense regulation of the individual's mode of life, especially as to diet, hygiene, occupation, recreation, etc. The use of the bromides in connection with a salt-free diet, as first advocated by Toulouse, has brought about material benefit in many patients. Bromides as a rule but mask symptoms and underlying causes of the disorder in the individual, as present at the beginning of the bromide medication. At the Craig Colony for Epileptics the amount of bromides used was from 10.8 oz. per patient in 1902 to 15.6 oz. in 1904, and 12.2 oz. in 1906. From 1908 there was a marked lessening of bromides used, the average dose for the entire year from 1909 to date being less than one-half ounce and no increase in the number of seizures.

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### NEW AND NONOFFICIAL REMEDIES

Standard Radium Solution for Drinking (1 microgram Ra).—Each bottle (60 Cc.) contains radium chloride equivalent to 1 microgram Ra, and 1.3 mg. of barium chloride. The solution contained in one bottle is taken after each meal. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, July 1, 1916, p. 35).

Radium Bromide, Schlessinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlessinger Radium Co., Denver, Colo.

Radium Carbonate, Schlessinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlessinger Radium Co., Denver, Colo.

Radium Chloride, Schlessinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlessinger Radium Co., Denver, Colo.

Radium Sulphate, Schlessinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlessinger Radium Co., Denver, Colo. (*Jour. A. M. A.*, July 8, 1916, p. 121).

Vitalait Starter.—A culture in vials of the *Bacillus bulgaricus* and the *Streptococcus acidilactici* in symbiosis. It is intended for the home preparation of fermented milk. Sufficient to prepare from 1 to 3 quarts of fermented milk is sent on request of the physician to the patient twice a week. The Vitalait Laboratory, Inc., Newton Centre, Mass. (*Jour. A. M. A.*, July 15, 1916, p. 203).

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

E. R. Squibb & Sons:

Solution Hypophysis.—Squibb.

Roberts' Occult Blood Test.—Squibb.

Ampules Mercuric Salicylate.—Squibb, 0.065 Gm.

Ampules Quinine Dihydrochloride.—Squibb, 1 Gm.

Ampules Dihydrochloride.—Squibb, 0.5 Gm.

Ampules Quinine Dihydrochloride.—Squibb, 0.25 Gm.

Ampules Quinine and Urea Hydrochloride.—Squibb, 1 Gm.

Ampules Quinine and Urea Hydrochloride.—Squibb, 0.5 Gm.

Ampules Quinine and Urea Hydrochloride.—Squibb, 0.25 Gm.

Ampules Quinine and Urea Hydrochloride.—Squibb, 1 per cent.

Ampules Sodium Cacodylate.—Squibb, 0.13 Gm.

Ampules Sodium Cacodylate.—Squibb, 0.05 Gm.

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## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one-hundred and thirtieth regular meeting of the Academy of Medicine was held Friday, June 23, 1916, at the Cleveland Medical Library, the President, Dr. Wm. Evans Bruner, in the chair.

The minutes of the regular meeting of April 21st were read and approved.

The minutes of the Council meetings of May 2nd and June 20th were read and approved.

Dr. Moorehouse presented the report of the special committee on the revision of the constitution and by-laws, outlining the proposed amendments, stating that they were approved by the Council and would be up for final action by the Academy at the regular meeting in September.

Dr. George H. Matson, of Ohio State Medical Board, then gave a talk upon "Ohio and the Drugless Healers," in which he outlined the development of the medical practice acts of the State, showing wherein they had led to the situation which we had to face of all sorts of drugless cults seeking special boards of registration, which situation was met by the present medical act. He then described the various cults and showed wherein the law as passed would enable the board to deal with the situation and in some measure to protect the public against ignorant individuals who desired to treat the sick. Obviously this protection would become more effective the longer the law is in operation.

A very full discussion was participated in by Drs. Moorehouse, Hammond, W. C. Tuckerman, J. J. Thomas, Sawyer, Bruner, and Dr. Matson answered questions touching various phases in the operation of the law and presented incidentally evidence of the extreme ignorance which many of those desiring to register under the act showed.

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*Amendments proposed by the Council of the Academy and presented to the Academy at its July meeting by Dr. G. W. Moorehouse, Chairman of the Special Committee on Revision of the Constitution and By-Laws:*

Amend Article IV to read as before amendment of March, 1913. (See Constitution and By-Laws as printed, 1911.)

Amend Article VI to read: "It (the Academy) may also take from the Council for consideration and action any subject which it may have or may have had under consideration."

Amend Chapter I, Section 1, to read: "Every reputable legally qualified physician who is engaged in practice in Cuyahoga County, Ohio; every graduate in medicine not engaged in the practice of medicine and resident in the county; every retired physician resident in the county; provided they do not practice or profess to practice, etc."

Section 3 to read: "Any graduate in medicine not engaged in the practice of medicine, and any individual not a member of the medical profession, working in sciences allied to medicine . . . shall be eligible to associate membership in the Academy."

Amend Chapter II, Section 2 (relating to the election of honorary members), to read: "Such proposal shall be acted upon by the Council as provided in the section above." (Section providing for the application and election to membership.)

Amend Chapter III, Section 1, last sentence, by striking out the word "either" (in no wise changes the sense of the section).

Section 4 to read as follows: "At the April meeting of the Council, it shall be the duty, etc. . . . Those whose dues are still unpaid on the first of December shall be reported by the Secretary-Treasurer to the Council at its December meeting." In no wise changes the purport of the section.)

Amend Chapter IV, Section 2, to read as follows beginning with the second sentence: "The dues for non-resident membership shall be two dollars (\$2.00) and for associate membership three dollars (\$3.00). The dues of a member shall be payable upon the first of January each year. The dues of a member elected during the year shall be payable upon the first of the fiscal quarter-year following his election, and for an active member shall be for that year a sum equal to as many fourths, etc," to the end of the Section. (This amendment increases the dues for non-resident and associate membership.)

Amend Chapter V, Section 3. Strike out the first sentence of the section—the rest of the section to stand as published, 1911.

The following new sections to be added providing for the nomination and election of officers by postal ballot, other sections being renumbered to correspond:

Section 4. The President of the Academy shall appoint three Tellers, one of whom he shall designate as Chairman, to canvass the ballots cast in the nomination and annual election of officers. Only those ballots shall be counted which are sent in by active members in good standing. All data necessary for their work shall be furnished the tellers by the Secretary-Treasurer.

Section 5. Nomination and election of President, Vice-President, and Trustee of the Academy shall be made by postal ballot, said ballots to be canvassed by the Tellers.

Section 6 (a). With the programs for the October meeting of the Academy the Secretary-Treasurer shall send to each active member of the Academy a postal nominating ballot printed with serial numbers and properly addressed and stamped for return to the Chairman of the Tellers. This ballot shall provide suitable spaces for the member to indicate whom he wishes to nominate for President, for Vice-President and for two Trustees.

The nominating ballot shall also give the names of the Tellers and shall specify that no ballot post-marked later than midnight of the fourth Friday of October shall be counted.

(b) The week following the receipt of the nominating ballots they shall be canvassed by the Tellers who shall place the official ballot (1) as nominees for the office of President the names of all those who receive ten or more nominations for that office, (2) as nominees for the office of Vice-President those who receive five or more for that office, and (3) as nominees for the office of Trustee those who receive five or more for that office; provided that for each office said members are eligible and have signified their consent to the Tellers to serve if elected.

(c) At the November meeting of the Academy the Tellers shall report the names qualified to appear upon the official ballot. This shall constitute the official ballot for officers for the ensuing year, provided it contain at least three names each for President and Vice-President and six for Trustees. In event the report of the Tellers does not show the requisite minimum number of nominations this number shall, immediately following the report of the Tellers, be completed by nominations from the floor. Such additional nominations shall be determined by ballot by the members present.

Section 7 (a). On the second Friday of December the Secretary-Treasurer shall send to each active member of the Academy whose dues are paid a copy of the official ballot properly addressed and stamped for return to the Chairman of the Tellers, and specifying thereon that no ballot post-marked later than midnight of the following Wednesday shall be counted. Each member shall indicate on this ballot a choice for not more than one for the office of President, one for Vice-President, and two for Trustees.

(b) The official ballot shall be canvassed by the Tellers. A plurality of all votes cast shall be necessary to elect. In case there be a tie vote for any office the result shall be determined by the Tellers by lot.



(c) The Tellers shall announce the result of the election at the annual meeting in December.

Section 8. The Secretary-Treasurer shall be elected by the Council.

Amend Chapter VI, Section 1, by adding after the words "by the Academy," "shall in October of each year sufficiently early to permit their names being printed on the nominating ballot, appoint three tellers to canvass the nominating and official ballot for officers for the ensuing year." (Appointment made by President.)

Section 2 to stand as published, 1911.

Section 3, by creating new paragraphs (c), (d) and (g), to read as follows and by rearranging the other sections dealing with the duties of the Secretary-Treasurer to conform:

(c) He shall send such other notices or attend to such duties as the Academy may direct. In accordance with the direction of the Council he shall take cognizance of the death of members.

(d) He shall send to the active members of the Academy in October the nominating ballots, and in December, the official ballots for the annual election of officers as provided in Chapter V of these By-Laws.

(g) Being old paragraph (d) as printed 1911, and in the last sentence changed to read, "as of December first."

(Rearrangement of the other sections in no wise changes the duties of the Secretary-Treasurer, except as provided in new paragraphs (c) and (d).

Amend Chapter VIII, Section 4, adding a new paragraph (e), "The Council shall elect the Secretary-Treasurer of the Academy and fix his salary," relettering the succeeding paragraphs to correspond.

Section 5, by adding after the sentence, "The acceptance by the Academy of the report of the Council shall constitute a ratification of all business transacted by the Council," and by changing the last sentence to read, "Either preceding action by the Council or subsequent to such action the Academy reserves the right to take any matter from the Council by a majority vote of the active members present, or to call upon the Council for information. The above provision shall not be so construed as to prevent the Council from speaking in the name of the Academy or from acting in accordance with its own judgment in emergency."

Amend Chapter VIII, Section 2, by omitting paragraph (b).

Section 3 (a). By omitting the last sentence.

Section 3 (b) to read "Change of time or place of Academy or Section meetings may be made only with the consent of the President and Secretary-Treasurer of the Academy and the Chairman of the Program Committee.

Amend Chapter IX, change Section 2 to read:

(a) Three Tellers to canvass the nominating and official ballots of the Academy shall be appointed by the President sufficiently early to permit their names being printed on the nominating ballots issued with the October program. One of the Tellers shall be designated as Chairman.

(b) The teller shall canvass the nominating ballot; shall report the official ballot; shall canvass the official ballot and announce the result thereof as provided in Chapter V of these By-Laws.

Amend Chapter XII, Section 1, by striking out paragraphs (d) and (e) adding new paragraph (d) as follows and relettering the subsequent paragraphs to correspond.

At the stated meeting in November, report by the Tellers of the official ballot and if as reported it contain less than the requisite minimum number of nominees the completion of the ballot as provided for in Chapter V, Section 6 (c) of the By-Laws.

Section 2. By striking out paragraph (d), adding new paragraphs (e) and (f), to read as follows and relettering the other paragraphs to correspond:

(e) Report by the Chairman of the Tellers of the result of the official ballot.

(f) The President-Elect takes the chair.

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*By action of the Academy at the July meeting these amendments were ordered published and will come up for final action at the September meeting of the Academy.*

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### COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine held Tuesday, June 20, 1916, at the University Club, the following members were present: The President, Dr. Bruner, in the chair; Drs. J. J. Thomas, Sawyer, Sanford, Weir, Selzer, Updegraff, Bernstein, Moorehouse, Follansbee and J. E. Tuckerman.

The minutes of the last meeting were read and approved.

On motion the following were elected to active membership:

H. J. Brickman, M. D.

Mary C. Goodwin, M. D.

H. M. Mandel, M. D.

On motion the names of the following applicants were ordered published:

*For Active Membership*—R. P. Bell, C. L. Ruggles, J. L. Faragher, F. H. Hooper, Bernard Neubauer.

*For Non-Resident Membership*—L. E. Brown, Akron, O.; Robt. B. Chamberlain, Twinsburg, O.

The Secretary asked the Council whether they would authorize him to pay from the general treasury a bill of \$45.00, traveling expenses for Dr. Mandel, invited guest of the Experimental Medicine Section.

On motion by Dr. Sanford the Secretary was directed to pay the account and to remind the officers of the Section that sections have no authority to obligate the Academy for speakers from out of town, such power being vested in the Council.

On motion of Dr. Moorehouse the president was asked to appoint a special committee on medical practice.

Dr. Sanford made a verbal report for the local committee on arrangements. He stated that a complete report would be filed with the Secretary of the Academy as soon as the books, which were delayed by the non-receipt of a certain advertising account, could be closed.

On motion the Secretary was directed to convey to the committee on arrangements the appreciation and thanks of the Council for the splendid manner in which they handled the arrangements of the State meeting.

The Council then proceeded to the consideration of the revision of the constitution and by-laws.

The Council approved the final draft of changes as proposed by the committee for presentation at the June meeting of the Academy. The chairman of the committee was requested to present the substance of the report at this meeting of the Academy in order that the proposed changes may be voted upon at the September meeting of the Academy.

The Secretary was further directed to have the proposed changes published.

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## BOOK REVIEWS

**Skin Cancer.** By Henry H. Hazen, A. B., M. D., Professor of Dermatology in the Medical Department of Georgetown University; Professor of Dermatology in the Medical Department of Howard University; Sometime Assistant in Dermatology in the Johns Hopkins University; Member of the American Dermatological Association. With ninety-seven text illustrations and one colored frontispiece. C. V. Mosby Company, St. Louis, 1916. Price, \$4.00.

This is a book which fills a long-felt need, and will be welcomed by pathologists no less than by dermatologists. With cancer steadily increasing, a monograph on that of the skin—the most accessible to surgical intervention—is a very important achievement.

The subject is treated very fully, including the so-called "precancerous" dermatosis, and also the tumors, both benign and malignant, of the cutaneous appendages.

Throughout the book the influence of Dr. Bloodgood's teachings is strongly felt. A. A. E.

**A Manual of Pathology.** By Guthrie McConnell, M. D., formerly Professor of Pathology and Bacteriology, Temple University, Medical Department, Philadelphia. Third revised edition. 12 mo. volume of 585 pages, illustrated. W. B. Saunders Company, Philadelphia and New York, 1915. Cloth, \$2.50 net.

This unpretentious little volume really contains a wealth of accurate, up-to-date information which, as a rule, is not expected from similar publications; thus it gives very practical suggestions pertaining to autopsy work, staining, embedding and other laboratory technique, has some very good information on immunity and infection, bacteriological technique, and general and special bacteriology—in short, it could be called "A manual of the principles and practice of pathology." There are about 200 illustrations, most of which are well chosen and executed.

The text is carefully prepared and is quite up-to-date, giving mention of the most important contributions to pathology. A. A. E.

## ACKNOWLEDGMENTS

**Examination of the Urine and Other Clinical Side-Room Methods.** By Andrew Fergus Hewat, M. B., Ch. B., M. R. C. P., Ed., Tutor in Clinical Medicine, University of Edinburgh; Lecturer Edinburgh Post Graduate Vacation Course. Fifth Edition. Paul B. Hoeber, New York. Price, \$1.00.

**The Diagnosis and Treatment of Heart Disease.** Practical Points for Students and Practitioners. By E. M. Brockbank, M. D. (Vict.), F. R. C. P., Hon. Physician, Royal Infirmary, Manchester; Clinical Lecturer on Diseases of the Heart, Dean of Clinical Instruction, University of Manchester. Second Edition with Illustrations. Paul B. Hoeber, New York, 1916. Price, \$1.25, net.

**Modern Medicine and Some Modern Remedies.** Practical Notes for the General Practitioner. By Thomas Bodley Scott, Author of "The Road to a Healthy Old Age." With a Preface by Sir Lauder Brunton, Bart., F. R. S. Paul B. Hoeber, New York, 1916. Price, \$1.50, net.

**Ultra-Violet Light—By Means of the Alpine Sun Lamp.** Treatment and Indications. By Hugo Bach, M. D., Bad Elster, Saxony, Germany. Authorized Translation from the German. Paul B. Hoeber, New York, 1916. Price, \$1.00, net.

**Cerebellar Abscess. Its Etiology, Pathology, Diagnosis and Treatment, Including Anatomy and Physiology of the Cerebellum.** By Isidore Friesner, M. D., Adjunct Professor of Otology and Assistant Aural Surgeon, Manhattan Eye, Ear and Throat Hospital and Post Gradu-

ate Medical School, New York; and Alfred Braun, M. D., F. A. C. S., Assistant Aural Surgeon, Manhattan Eye, Ear and Throat Hospital, Adjunct Professor of Laryngology, New York Polyclinic; Adjunct Otologist, Mt. Sinai Hospital. Paul B. Hoeber, New York, 1916. Price, \$2.50, net.

**The Practical Medicine Series, Volume III. The Eye, Ear, Nose and Throat.** Edited by Casey A. Wood, C. M., M. D., D. C. L.; Albert H. Andrews, M. D.; and George E Shambaugh, M. D. Series 1916. The Year Book Publishers, Chicago. Price of this volume, \$1.50. Price of the series of ten volumes, \$10.00.

**Studies in Immunization Against Tuberculosis.** By Karl Von Ruck, M. D., and Silvio Von Ruck, M. D. Paul B. Hoeber, New York, 1916. Price, \$4.00.

**An Introduction to Bacteriology for Nurses.** By Harry T. Carey, A. B., M. D., former Assistant Bacteriologist, Bender Hygienic Laboratory, Albany, N. Y.; Associate in Medicine, Samaritan Hospital, and City Bacteriologist, Troy, N. Y. F. A. Davis Company, Philadelphia, Pa., 1915. Price, \$1.00, net.

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### MEDICAL NEWS

**Dr. W. H. Pritchard**, formerly of Gallipolis, Ohio, is now a resident of Columbus, having on July 16, 1916, become superintendent of the Columbus State Hospital by the appointment of the Board of Administration of Ohio Institutions following a Civil Service examination held June 8. For eight years prior to 1911 Dr. Pritchard was the superintendent of the Ohio Hospital for Epileptics at Gallipolis.

**A New Corporation.** Announcement has just been made of the formation of a new corporation, called the Victor Electric Corporation, which has purchased the business of the following firms:

Victor Electric Company, Jackson Boulevard and Robey street, Chicago, Ill.; 110 E. 23rd street, New York City, N. Y.

Scheidel-Western X-Ray Company, 737 West Van Buren street, Chicago, Ill.; 110 East 23rd street, New York.

Macalaster, Wiggin Company, 66 Broadway, Cambridge, Mass.; 154 West Lake street, Chicago, Ill.; 110 East 23rd street, New York.

Snook-Roentgen Mfg. Company, 1210 Race street, Philadelphia, Pa.; 110 East 23rd street, New York.

The purpose of the new corporation is to continue the respective business policies of the above-mentioned concerns, and by elimination of waste, and the development of co-operative service, be better able to serve more efficiently the interests of the medical profession.

The sales and service organization will be much more comprehensive than heretofore, it being the plan to continue all of the present branch offices and open up new ones in all sections of the country so that ultimately no member of the profession, no matter where located, will be more than a few hours distance from a trained man, who can render intelligent and efficient service.

By maintaining a research department to co-operate with the profession in the development of this science, it is expected that more rapid progress can be made than has been heretofore, and a greater co-operation secured with the profession as a whole.

The new corporation announces that it expects to conduct its business in an entirely ethical manner, believing that there is a standard of ethics in business that conforms exactly with our ethics and traditions.

It is also the purpose of the new corporation to make every customer feel that the pleasant relations existing between them and the various firms will be continued. They wish it to be known that repair parts and supplies for the apparatus of the constituent concerns may be obtained at any of the aforementioned addresses.



The stabilization of this industry is another great advantage which, with the added economy of production, assures the profession of the greatest values and a conduction of the business along sound financial lines.

The names of those associated with its management, who formerly had charge of the respective merged companies are men of high calibre and recognized ability and warrant us in wishing the new corporation the best of success.

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**The Rockefeller Foundation, International Health Board, 61 Broadway, New York City.**—The International Health Commission of the Rockefeller Foundation has announced the change of its name to International Health Board of the Rockefeller Foundation.

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**Little Damage to the Abbott Laboratories.**—A small fire with explosion of gases occurred April 21st on the top floor of one of the buildings of The Abbott Laboratories. Newspaper reports of the extent and character of this accident were grossly exaggerated. The damage was very small, consisting mainly of broken window panes and cracking of temporary partitions. The plant and machinery was injured but slightly, and the entire force went to work the next morning as usual. The Abbott Laboratories have issued a statement positively denying the newspaper reports that this firm is or has been engaged in the manufacture of ammunition or explosives.

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**American Journal of Electrotherapeutics and Radiology.**—Beginning with the first of this year the *Journal of Advanced Therapeutics* has been published under a new management with the same editorial staff, and the name being changed to the *American Journal of Electrotherapeutics and Radiology*. It is the only journal published in this country which is devoted to Physical Therapeutics, including the uses of the X-ray and other physical measures. It will be the policy of the journal, as in the past, to maintain a scientific standard as representing the modern, up-to-date progress in every department included in the field covered.

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**Appointments to the Medical Reserve Corps.**—At the examination recently held in various cities throughout the United States the following named medical men successfully passed the examination for appointment as Assistant Surgeon in the Medical Reserve Corps, with a view to subsequent examination for appointment in the Medical Corps of the Navy:

James A. Halpin, M. D., Washington, D. C.  
William D. Heaton, M. D., Wahoo, Neb.  
Aubrey M. Larsen, M. D., Salt Lake City, Utah.  
Lincoln Humphreys, M. D., Argenta, Arkansas.  
Theo. Edward Cox, M. D., Cleveland, Ohio.  
Arthur W. Hoaglund, M. D., Minneapolis, Minn.  
Carroll H. Francis, M. D., Camden, N. J.  
Harold L. Jensen, M. D., San Francisco, Cal.

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**The Fourth Annual Convention of the Cremation Association of America** will be held in the Auditorium of the Hotel Gibson, Cincinnati, Thursday and Friday, August 24 and 25. All of our readers who believe in or are interested in cremation are cordially invited to attend. They are also eligible to associate membership upon payment of one dollar to the treasurer, Mr. E. P. Samson, 433 Sixth avenue, Pittsburgh, Pa., a formal application not being required. Money thus obtained is used for purposes of propaganda.

It is not only a source of satisfaction but pride to know that some of the most eminent members of our profession have been connected with the sanitary reform known as the cremation movement. In Germany it was

advocated by Rudolph Virchow, in England by Sir Henry Thompson and Sir T. Spencer Wells, in France by Dr. Prosper Pietra-Santa, in Denmark by Dr. F. Levison, and in Italy by Drs. Gaetano Pini and M. de Cristoforis. In our own country, Dr. Francis Julius Le Moyne, a graduate of the medical department of the University of Pennsylvania, built the first crematorium in America at his own expense, and cremation was ardently promoted by Drs. Samuel D. Gross, Edward J. Bermingham, Felix Formento and Hugo Erichsen, the present president of the Cremation Association of America.

It will be news to many that the United States has forged ahead of Germany in the leadership of the cremation movement. There are 53 crematories here as compared to 48 in the Vaterland, and two more are in contemplation, one at Salem, Mass., and another at Kansas City. We have also outdistanced Germany in the total number of incinerations, the figures being 86,006, up to the end of 1913, as compared to 76,350, up to the end of 1915. Statistics, recently published in "The Sunnyside," show there was an increase of 906 per cent in the number of cremations in America in 15 years, and that, as the man in the street would say, is certainly "going some."

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**The New York Social Hygiene Society.**—The Society of Sanitary and Moral Prophylaxis has formally changed its name to the New York Social Hygiene Society. This organization is the oldest of the American social hygiene societies; it was founded in 1905 by the late Dr. Prince A. Morrow at a time when it took real courage to propose a program of sex education and of rational handling of the venereal disease problem. The influence of the Society has been widely felt as its publications have found their way to all part of the world. As the number of social hygiene societies increased, Doctor Morrow and those associated with him felt the need of a central organization, dissociated from local work, to serve as a national center and clearing house, to carry on general propaganda, to devise and test new methods, and the like. For such purposes, the American Social Hygiene Association was organized. The older society is now transferring its work outside the local field to the Association and is turning its attention to intensive activities in New York City and State. Dr. Eugene La Forrest Swan, of Brooklyn, is its president, and Mr. Frank J. Osborne, 105 West 40th street, New York City, its secretary.—*American Social Hygiene Bulletin.*

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**Campaign Against Venereal Disease in the Army.**—Fragmentary reports received from Europe show that the venereal diseases constitute one of the most serious and troublesome health problems for the military health officers of the nations engaged in the Great War. The same problem has existed and been recognized in our own army, but now assumes greater importance in consequence of the mobilization of our national guard troops and their assembling on the Mexican border and in various state camps. There is grave warning of impending danger in the reports of the ravages of these diseases at the time of the Spanish War and of their spread among the civilian population when the military organizations dispersed at its close.

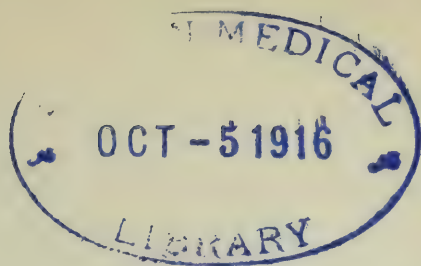
With these lessons in mind, the American Social Hygiene Association is seeking to co-operate with national and state military authorities, with the Y. M. C. A., and with state and local hygiene societies in educational and medical measures to prevent and control venereal disease among the regular and national guard troops. Plans for this work are not yet fully worked out, but they include both preventive efforts through the use of special printed matter, by social and recreational agencies, and by the repression of prostitution in the vicinity of the camps, and also remedial measures for prompt and adequate diagnosis, treatment and control of all venereal infections.—*American Social Hygiene Bulletin.*

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**Psychopathic Clinic.**—The city's need of a psychopathic clinic is put forward by Stewart Paton, Princeton, N. J. (*Journal A. M. A.*, March 11, 1916). The best practical illustrations of such institutions are the Henry Phipps Clinic in Baltimore and the Psychopathic Clinic in Boston, which is closely affiliated with Harvard University. These are modern hospitals in the fullest sense of the word. The old asylum no longer exists in the modern conception of psychiatry. As to the reason for their establishment, he first quotes the statistics of the numbers of patients in hospitals for the insane and of their necessary cost which in the same period of time would call for the expenditure of \$150,000,000 more than the sum expended in building the Panama Canal. When we add to this the expenses incurred in the prosecution of persons of unsound mind, there would seem to be ample reason for the support of any measure that would diminish the number of these dependents. Psychiatry, Paton says, has not received the attention it deserves from the medical profession and public. It is a field practically unstudied and unknown by the great majority of physicians. Patients with psychoses come under observation through failure to recognize the initial symptoms only at an advanced stage of development of their disease, and if the conditions were allowed to continue the menace to us as a nation will become greater than that of war. We must attack the problems from a point that gives us some prospect of success. Paton's experience at Princeton University has convinced him that teachers should be trained to attack the problems of education from the broad biologic and not the scholastic point of view. He has had the privilege of talking to students who have had difficulties in adjusting their lives satisfactorily, and in a small university community the number was a large one. It has brought to his mind as nothing else could the necessity of the practical realization of the fact that life is a process of adjustment, and education should be a process of assisting human beings to the successful adaptation of their activities. Many of us use the phrase "life is a process of adjustment" without appreciating its applicability to the activities taking place in the higher levels, such as consciousness. All our conscious activities are mechanisms for adjustment, and if we desire to understand the human machine we must be familiar with the functions of the different organs, analyze the mutual relationships and finally study the integration of the different functions as shown in behavior. Many of the interesting cases of "forgetting" which we observe illustrate the intimate dependence of the higher on the lower level. The experiences in the study of abnormal phenomena may be largely utilized in solving the great problems of civilization, and there should be better opportunities offered to physicians for applying the facts discovered by experiment in regard to the nature of the mechanisms conditioning the emotions to assist in the interpretation of human behavior. The establishment of a psychiatric clinic not only aids the study of the abnormal mind but marks an intelligent desire to study human beings. Paton thinks that it will be one of the aids in remodeling our entire educational system, and he asks, Is not the present crisis one in which civilization is paying for man's failure to take an intelligent interest in the study of his own activities?

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# The Cleveland Medical Journal

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## FECAL FISTULAE

By GEORGE W. CRILE, F. A. C. S., Cleveland, Ohio

Fecal fistulae may be classed as planned or accidental. The former class are easily dealt with and are not considered in this paper. Most fortuitous or accidental fistulae result from disease or from operations performed with inadequate facilities, such as appendectomy in an acute case, or salpingectomy. In acute appendicitis, for example, a fecal fistula may be caused by the surgeon or may result from the disease—but its occurrence may always be prevented. A not uncommon occurrence is the formation of a fistula by the sloughing away of a completely gangrenous cecum, or if the cecum is severely damaged the surgeon may complete its destruction. For this reason in cases of acute gangrenous appendicitis it is of prime importance to approach the perforated or gangrenous appendix with the utmost caution. The cecum should not be separated from its adhesions; the appendix should not be invaginated; and no drain or gauze should on any account be permitted to come into contact with the cecum, whose integrity is threatened by infection. If a fistula appears during the acute stages of the infection, let it alone—do nothing, for nature will close it if given a chance. Infection may cause a fistula, but only the surgeon will perpetuate it by trying to remedy it while the infection is acute. By his would-be helpful efforts the surgeon may hinder the closure of the cecum until its mucous membrane grows out and meets the skin, for the insertion of a drainage tube as far as the fistulous opening produces an avenue for granulation along which the mucous membrane of the intestine grows rapidly until it reaches the skin—and a fecal fistula is the result. A fistula in any other part of the intestine may be produced in the same way.

However produced, immediately after its inception any fecal fistula may be healed in the simplest possible manner, viz., by



placing neither gauze nor drainage tube in contact with the intestine. In my experience spontaneous closure has invariably followed this method of treatment. It is possible to thus dispose of drainage only if at the operation adhesions have not been broken up and only a simple opening made.

Cecal fistulae may be cured with certainty by one of two methods of operation. Bismuth X-ray pictures disclose approximately the depth of the fistula or fistulae, and show the branches if any exist. If the fistulae be single and shallow, without branches, the operation may be performed after the method of Coffey. A probe is inserted for guidance. The tract and the wall of scarred and infected tissue is gradually isolated by a cautious dissection. The dissection is done within an ample incision which extends down toward the bowel at the border of the normal tissue of the original wound. The scar and the fistula are thus isolated together until the surface of the bowel is reached. The bowel is then most cautiously separated by *sharp bloodless dissection* up to the fistula, which is attached like an umbilicus to the cecum.

If the cecal wall be sufficiently thin and elastic the division of the fistula is similar to an appendectomy—that is, the fistula is tied near the cecum with catgut, is divided and the stump is invaginated. If omentum is at hand, as it usually is, it is patched over all.

These operations for single unbranched fistulae are the easiest. A more complicated operation is required where there are branching sinuses; when the fistula, though single, is long and tortuous; and when the opening is so large as to receive a large portion of the bowel contents. In these cases the fistula is firmly covered by a pad of gauze held down by adhesive plaster. The fistulous territory is separated from the proposed abdominal incision by a towel which is sutured to the skin. An ample abdominal incision is made internal to the fistula and the adherent intestinal coils are separated by sharp dissection until the site of the fistula is located. A lateral intestinal anastomosis is made at a safe distance from the fistula, and if conditions are favorable the distal coils are plicated to prevent further fecal discharge. The wound is closed in the usual way, the piece of gauze and adhesive plaster over the fistulous opening being left in place as long as possible. By this means primary union is usually secured.

The isolated coil of intestine containing the fistula shrinks from disuse and usually the fistula closes spontaneously; if not, its closure may be effected by the deep destruction of the mucous membrane.

Some sigmoid fistulae are so deep in the pelvis and have such large lamina and such thick walls that neither invagination nor direct suture can succeed. In such cases, if the isolation of the fistula by anastomosis was impossible, I have divided the bowel; completely resected the fistula; and have then either (a) made an end-to-end suture by means of the efficient cobbler stitch; or (b) closed the ends by invagination and made a side-to-side anastomosis. In the latter case I stitched the invaginated end to the adjacent bowel to prevent obstruction of the stoma by further invagination. Omental wrapping is employed whenever possible. A cigarette drain is placed carefully away from the field of operation. In an extremely difficult case of sigmoid fistula a temporary fistula of the cecum was made.

In a recent case of a rectal fistula of many years standing discharging just above the pubes, in which at exploration the pelvis proved to be an impenetrable mass, I made a long incision down to the depth of the fistula. The incision was left wide open and treated with exposure to electric light and hypochlorous acid; later when sterile the edges were approximated with adhesive straps—apparently successfully.

Nitrous-oxide-oxygen anesthesia and anociation are employed in these operations and are of great advantage, as they eliminate shock, and minimize vomiting and impairment of immunity. If the hazard is great, glucose and sodium bicarbonate are given before and opium after the operation. Water is given freely and sleep and rest secured by every possible means.

These notes are based on personal experience in twenty operations.

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## THE ETIOLOGY AND SYMPTOMOLOGY OF ACUTE POLIOMYELITIS

By HUBERT C. KING, M. D., Cleveland

Without laying claim to any originality, the writer has hoped that the setting down in this place of some of the facts concerning this disease may be of benefit to some.

Poliomyelitis is essentially an epidemic disease, but we are never without sporadic cases, many of which attract very little notice. Every epidemic has been preceded by an increase in these sporadic cases:

*Season*—It is a disease of the summer months. The maximum incidence is reached in the late summer and early autumn.

*Age*—Poliomyelitis is essentially a disease of childhood. The greatest number of cases are seen in children between the ages of one and three. In the epidemic in New York in 1907, of 886 cases in one report, 571 were below 3 years of age. In the present epidemic, Koplic reports the youngest case he has seen as 4½ months. Although it is a disease of childhood, adults are not immune to poliomyelitis. In the Swedish epidemic of 1905, more than one-fifth of the cases cited by Wickman were in persons over 15 years of age. He reports one case in a man of 46 years.

*The Virus*—The micro-organism causing infantile paralysis is now known. It is a minute, filterable micro-organism. Flexner, and his co-workers at the Rockefeller Institute, have secured it in artificial culture, and report it distinctly visible under the higher powers of the microscope. The difficulties attending its cultivation and identification are too great to make the ordinary bacteriological tests of use in the diagnosis of the disease.

It leaves the bodies of those ill with disease, and of healthy contaminated persons, by secretions of the nose and throat, and, after these are swallowed, by the bowel. The virus has never been detected in the blood of human beings, and it seems improbable that biting insects can extract the virus. The disease can, however, be carried by insects, including the common fly, which have become contaminated with the secretions of the nose, throat or bowel.

The virus enters the body through the nose and throat, almost to the exclusion of any other portal of entry. It is possible, but not proven, that it may be conveyed by biting insects, contaminated with the secretions of a patient ill with the disease, or that it

may enter through the intestinal tract. Experimental evidence seems to exclude domestic animals as carriers. The paralytic diseases from which they suffer are not at all similar to infantile paralysis.

The average time required for the virus to disappear from the body is four or five weeks. Cases of chronic carriers have been reported. The greatest danger of contagion is during the first few days of the disease.

*Period of Incubation*—This period is subject to variation. Cases are reported occurring as soon as two days after a definite exposure, and, in others, the incubation period has lasted as long as two weeks. Flexner says the usual period does not exceed eight days.

*Prodromal Symptoms*—These are not definite and the reports of different investigators are at variance. They last from one to seven days, with one to three days as the average time. In certain cases, occurring in intelligent families, the child has gone to bed perfectly well, and awakened paralyzed. This mode of onset is the exception. As a rule, the symptoms increase in severity until the onset of paralysis. In certain cases, after two or three days of illness, the child has seemed to recover completely, only to be seized one or two days later with paralysis. The severity of these prodromal symptoms bears no relation to the extent of the paralysis, or the prognosis of the disease.

The most constant signs of the prodromal period are fever and headache. A temperature of 103 degrees is not uncommon. Chill is rare. Muller states that profuse sweating was present in 75 per cent of his cases. Peabody, Draper, and Dochez, of the Rockefeller Institute, find it in 25 per cent of their cases. Headache is almost the rule.

Drowsiness is noticeable in many cases. It may approach the severity of a stupor with the onset of the acute stage, and has been likened to the typhoidal state. On the other hand, irritability may be marked, with hyperesthesia (Muller). An older child may complain of pain in the spine and extremities.

Some children complain of weakness in a certain group of muscles or it may be noticed that an arm or leg is favored. At this stage there is most often an exaggeration of the reflexes.

In the Hesse-Nassau epidemic of 1909 over 50 per cent of the cases were ushered in by symptoms of an ordinary cold in the head.



Gastric symptoms consisting of anorexia and vomiting are quite common.

Early cases show a leucocytosis with a relative polymorphonucleosis. The spinal fluid in the early stages is quite clear, rarely slightly cloudy. Neal reports 80 per cent of the cells as mononuclears. The differentiation from epidemic meningitis is evident. On the other hand, some of the cloudy fluids contain 60 per cent or more of polymorphonuclear cells.

*Clinical Classification of Cases*—The best classification is that of Peabody, Draper and Dochez of the Rockefeller Institute.

1. *Abortive Cases*—Cases of infection which never become paralyzed. These cases may exhibit signs of any general infection. They may show symptoms of meningeal irritation or have severe aching pains like an influenza. Some have marked digestive disturbances.

2. *Cerebral Group*—First described by Strumpell in 1885. Fever, vomiting and convulsions are followed by a hemiplegia, a spastic paralysis. The upper motor neurone is involved. Monoplegia may occur. There is no atrophy of the muscles, and no reaction of degeneration. The reflexes are exaggerated.

3. *Bulbo Spinal Group*—This is the common type. The paralysis occurs on the first or second day. The child may be in a drowsy state from which he can be easily roused, or there may be evidence of meningeal irritation, with opisthotonos and a typical meningitis picture. The child objects to being touched and resists manipulation of the paralyzed parts. Photophobia may be present. Rigidity of the posterior neck muscles was quite constant in the cases reported by Peabody, Draper and Dochez. Pain on passive motion is severe and spontaneous pain also does occur. The lumbar enlargement of the cord is involved most commonly, with the cervical enlargement next. The spinal paralysis is, of course, of the lower neurone type, with flaccid paralysis, loss of tendon reflexes, reaction of degeneration, and muscular atrophy. The legs are most frequently paralyzed, the arms next most frequently. The paralyzes are frequently unsymmetrical, and combination of arm and leg involvement are common. Involvement of trunk muscles, and of muscles supplied by the cranial nerves, have occurred without any other muscular involvement. Sphincter involvement is rare.

*Bulbo-spinal Paralysis*—As a rule, the picture of bulbar involvement is complicated by signs of a spinal paralysis. That is,

the affections of the cranial nerves are part of a process in which there is paralysis of legs and arms. These combined lesions are usually extensive and severe. The lesion of the cord may be so slight that the spinal paralysis is overshadowed by that of bulbar origin.

We have, however, the interesting entity—pure bulbar paralysis. Medin called attention to the fact that many of the cases formerly classified as acute bulbar paralysis are, in reality, cases of acute poliomyelitis with localized lesions in the pons and medulla. Any of the cranial motor nerves may be involved, although the facial is by far the most frequently affected. Ocular paralyses, due to abducens paralysis, have occurred, and Wickman has reported a case of complete ophthalmoplegia externa. Disturbances of speech, from the slight, transient affections to complete aphonia, have been reported. Difficulties in deglutition may occur. Many of these children, when they start to walk, show evidence of an ataxia. This ataxia may involve arms and legs. There is spasticity, with exaggerated knee and Achilles reflexes. In many of these cases a well marked Romberg may be demonstrated.

Lastly, there are certain rapidly progressive cases, showing the symptom-complex of Landry's paralysis. The picture is that of an ascending paralysis, involving in order the legs, intercostal muscles, arms, neck, and diaphragm.

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**Standard Pamphlet Now Available.**—What the executive office of the National Association believes will be one of the most useful pieces of literature on tuberculosis yet offered for general distribution is now available in the form of a standard pamphlet of information for tuberculosis patients. It bears the title "What You Should Know About Tuberculosis" and was prepared by a special committee of the National Association. It is being printed by the American Medical Association as one of a series of pamphlets on public health. The pamphlet is designed for distribution to tuberculous patients by nurses, physicians, boards of health, open-air schools, employees' benefit associations and medical and anti-tuberculosis associations. Not only to tuberculosis patients, however, will it prove a valuable aid. It ought to be read by every worker engaged in the tuberculosis campaign. Those lecturing about tuberculosis will find it worth while to familiarize themselves with the facts which are so clearly presented and admirably arranged in this booklet.

The price of the pamphlet is \$15 per thousand in quantities of less than 5000; \$12 per thousand in quantities of more than 5000; both quotations f. o. b. Chicago.

The name of any organization distributing the pamphlet may be printed on the cover without extra charge on orders of 3000 or more. A charge of \$1.00 per thousand will be made for imprinting on quantities of less than 3000.—*Bulletin of Association for Study and Prevention of Tuberculosis.*

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

### Post-Partum and Post-Operative Perineal Care

A most helpful, interesting and time saving investigation has been completed by Doctor E. D. Plass, working in William's Obstetrical Clinic of Johns Hopkins Hospital and published in the *Johns Hopkins Hospital Bulletin*, 1916, XXVII, 107.

Plass compared the results of caring for the perineum during the puerperium in the routine way by bathing the vulva and perineum every four hours with sterile cotton pledgets soaked in 1:2000 bichloride of mercury solution, as well as after every voiding and defecation during the nine days the patient remains in bed, and those obtained by merely keeping the parts macroscopically clean. To quote the latter technique, "The patients were kept macroscopically clean with tap-water and soap and wash cloth. No attention was paid to voiding or bowel movements, unless, as sometimes happened after the initial dose of cathartic, the need of cleansing the parts was apparent. The bloody lochia were removed whenever necessary. Unless the patient was very ill, she was expected to keep herself clean. It was found that the average number of cleansings necessary was as follows: Four a day for the first three days, between the third and sixth days, not more than two a day, and after this only one, at the time the morning bath was taken."

Four hundred consecutive cases were observed alternating every other patient between the routine aseptic care and that of macroscopic cleanliness and dividing them into groups A and B, respectively. With the two series run simultaneously under the same house officers and with the same nursing care, etc., factors which might invalidate the results were eliminated. All cases delivered were included. When lacerations occurred they were repaired at once with chromic or silk worm gut or both; operative deliveries, frequency of vaginal examinations, morbidity (temperature over 100.4° F., taken every four hours), are the same in both groups; nor is there any marked difference in the incidence of elevation of temperature attributed to uterine infection (group A, 15%; group B, 14.5%). These and other points are made clear by Table 1.

TABLE 1

	Group A. Routine Care.		Group B. Soap and Water Care.	
Primiparae .....	120	60%	102	51%
Multiparae .....	80	40%	98	49%
Full term deliveries.....	181	90.5%	174	87.0%
Premature labors (7-9 months).....	16	8.0%	21	10.5%
Abortions (under 7 months).....	3	1.5%	5	2.5%
Spontaneous deliveries .....	185	92.5%	185	92.5%
Operative deliveries .....	15	7.5%	15	7.5%
Vaginal examinations .....	93	46.5%	92	46.0%
Temperature never over 100.4° F.....	121	60.5%	128	64.0%
Temperature over 100.4° F.....	79	39.5%	72	36.0%
Elevation due to uterine infection.....	30	15.0%	29	14.5%

The number and the character of the repairs of lacerations, as well as the condition of the parts at discharge (12-14 days after labor) are shown in Table 2.

TABLE 2

	Routine Care.				Soap and Water Care.			
	Well healed.		Poorly healed.		Well healed.		Poorly healed.	
1st degree .....	39	92.8%	3	7.2%	29*	96.6%	1	3.4%
2nd degree .....	21	75.0%	7	25.0%	19†	95.0%	1	5.0%
3d degree .....	0	.....	0	.....	1	100.0%	0	.....
Totals .....	60	85.7%	10	14.3%	49	96.1%	2	3.9%

\*One patient died eight hours after delivery (eclampsia).

†In one case, no repair (eclampsia).

It will be noticed that there is a considerable difference in the results obtained. The routine care was followed by 14% poorly healed, whereas with no aseptic precaution but 4% were unsatisfactory.

These results were so significant that for the past year the old technique has been abandoned and subsequently 108 repairs, including 8 episiotomies, were done, in which healing has been satisfactory in all but 4.5%.

For almost two years now, all antiseptic care of the secondary perineorrhaphies done in Doctor Howard Kelly's gynecological clinic has been discontinued, and although no figures are available, the consensus of opinion in the clinic is that the results have been better. In the absence of bleeding, no care is given other than the morning bath. Vulvar pads are discontinued after two days.

In addition to the far better results obtained, the great saving of nurses' time makes this non-antiseptic care of the perineum most worthy of general adoption.

Osborn Building, Cleveland.



## NEUROLOGICAL REVIEWS

By T. S. KEYSER, M. D., Cleveland

*Acute Poliomyelitis. F. E. Batten, Brain, 1916.*

Poliomyelitis may truly be considered as a disease which has become of great importance within the last thirty to forty years. The first record of the disease in epidemic form came from Sweden in 1881. Since then epidemics have increased in number and extent and have occurred in the most remote parts of the world. During the year of 1910, 5,093 cases with 825 deaths were reported in the United States.

In the Northern Hemisphere the disease is always most prevalent in July, August, September and October. By far the most cases occur during the second and third years of life, rapidly decreasing in frequency as the age advances and rarely affecting babies. The mortality varies from 11 to 16.6 per cent, apparently increasing from year to year. The period of incubation varies from one to four days. The disease is spread by carriers, who themselves may be perfectly well.

The essential pathological change of acute poliomyelitis is regarded by most investigators as an inflammation of the interstitial tissue of the central nervous system, occurring most commonly in the cord, but quite frequently as a disseminated process, in the medulla, pons, cerebrum, cerebellum, and membranes. The process is of the infiltrative lymphocystic type and follows the distribution of the vessels.

The inflammation, due to micro-organisms or toxins, probably travels along the perivascular lymphatics within the nervous system. The infection possibly reaches the nervous system from the site of inoculation through the perineural lymphatics, but also may be carried by the blood.

The essential gross pathological changes, aside from the nervous system, consists of an hypertrophy of all lymphoid tissues and focal hyaline necrosis of liver cells.

In the acute stage the pia mater, in a certain number of cases, is infiltrated with small, round cells, most numerous around the vessels of the anterior median fissure, but at times extending on to the posterior surface of the end and involving the posterior roots. The vessels of the cord, especially those in the anterior median fissure, are dilated and surrounded with small, round cells, the gray matter of the anterior horns and, to a more or less

extent, the surrounding white matter being involved in the inflammatory process. Extravasation of blood and thrombosis of vessels may be present. The ganglion cells of the anterior horns in part appear normal, in part surrounded by infiltration cells, and others destroyed by phagocytic neuroglia cells. A similar picture is frequently seen in the posterior root ganglia, according to Flexner being as constant in experimental lesions and probably in man as the classical lesions of the anterior horns. The same process is in evidence in the brain stem occurring in disseminated areas. In the chronic stage there is necrosis and secondary degeneration. Still later the products of necrosis become absorbed and some sclerosis appears, causing a shrinking of the parts affected.

The same inflammatory process may be found in the peripheral nerves, but it is not known whether this produces any clinical symptoms. The pathological picture of poliomyelitis is distinctive, with the exception of rabies, which resembles it quite closely.

The virus of poliomyelitis has been definitely established and its properties studied. The organism will pass through porcelain and Berkefeld filters. It resists the action of glycerine and drying. It grows quite readily on ascitic fluid under anaerobic conditions. The organism is 0.15 to 0.3 micron in diameter and occurs in pairs, chains and masses. The cultivated organisms show the same properties as those obtained from the diseased tissues, and animals inoculated with the cultivated organisms acquire the same symptoms as those produced by the virus as ordinarily employed. Thus the organism fulfils the conditions demanded by Koch for the establishment of causal relations between an extraneous parasite and a specific disease.

The careful investigations of Kling, Pettersson and Wernstedt during the epidemic in Sweden, in 1911, established the fact that the organisms are present in the mouth, nose, upper air passages, and intestines of persons affected and frequently of healthy individuals exposed to the disease. The latter fact doubtless largely accounts for the wide dissemination of the disease as well as the great difficulties encountered in endeavoring to control epidemics. Under natural conditions infection occurs most commonly through the buccal and nasal mucosa.

On clinical grounds there is good reason to believe that an individual who has survived an attack of poliomyelitis is im-



mune to a second attack. Experimentally such immunity has been found to exist. There is definite experimental evidence against the communication of the disease to man by means of fleas, lice, bugs and flies.

Clinically the forms of poliomyelitis have been divided by Wickman into the following groups:

1. Spinal form.
2. Bulbar, pontine and mid-brain form.
3. Cerebral form.
4. Cerebellar form.
5. Meningitic form.
6. Neuritic form.
7. Abortive form.

The spinal form is by far the most common type of the disease, manifested by a flaccid paralysis of one or more limbs, at times of all the muscles of the limbs, trunk and neck. Infrequently the disease begins in the lower extremities and gradually or intermittently ascends until death results from involvement of the respiratory centers. This ascending type usually occurs in adults. It is interesting to note that Landry's disease is now considered to be, at least usually, ascending acute poliomyelitis. The disease may first manifest itself in the upper segments of the cord and later descend to the lower segments (descending type). In other cases the thoracic and abdominal muscles alone may be affected. Such cases may be diagnosed as pneumonia, due to the respiratory disturbance, especially when accompanied by the collapse of one lung. Rarely a transverse lesion of the end may occur, giving the typical clinical picture of a transverse myelitis—flaccid paraplegia, loss of sphincter control, and loss of sensation to the level of the lesion.

The bulbar, pontine and mid-brain form occurs in about 12% of cases. The clinical manifestations are most varied, as any of the cranial nerves may be involved, either alone or in combination. The commonest type is facial paralysis, while ataxia, nystagmus, and tremor form the next most common group. Blindness may occur in association with involvement of the oculo-motor nuclei. Mid-brain lesions usually give rise to a slow, rhythmic tremor, increased on motion or by excitement, and a condition of "plastic tone" in the muscles of the extremities without true paralysis.

In the cerebral type, the onset of the illness is sudden, associated with convulsions, which may be unilateral or bilateral, and

loss of consciousness. On recovery from the acute symptoms, the child usually is found to be hemiplegic. Involvement of the cerebellum is characterized by the abrupt appearance of cerebellar ataxia, which may be unilateral. The meningitic form of poliomyelitis is especially interesting as one is frequently lead to an error in diagnosis in this type of the disease. "The onset may be sudden, attended by convulsions and coma. This may rapidly pass off, or persist and deepen. The temperature is raised and may remain high for days. The neck is stiff, the legs rigid in a flexed or extended position, and Kernig's sign may be present. The pulse may be slow or rapid. All the symptoms of a meningitis may be present, and on lumbar puncture the cerebrospinal fluid escapes under pressure, is clear, and on cytological examination may be found to contain an increased number of lymphocytes, with a normal or sometimes reduced sugar reaction and increased amount of albumin."

Most observers are willing to accept the above form of the disease, but few are willing to recognize the neuritic form, as the clinical picture is so entirely different from the other types of the disease and no definite pathological evidence is existent. Severe neuritic pain is quite common in ordinary spinal poliomyelitis and may be of neuritic origin, as inflammation of the posterior ganglion cells and of the nerves themselves has been observed in cases. Another point in favor of the neuritic type of the disease is the occurrence of multiple neuritis in patients who have come in contact with patients suffering from typical poliomyelitis. Quite recently a physician told me that he has seen cases of neuritis which he believed might have been caused by the virus of poliomyelitis, although he had never heard of this form of the disease. "The question would be solved if there was a simple specific blood reaction for poliomyelitis; but such has yet to be determined."

There is little doubt that abortive cases of the disease occur. "The attack as a rule is acute, and accompanied by fever, headache, and malaise. In some cases these symptoms are associated with others, such as rigidity in the neck, pain in neck, back, loins and limbs, and parasthesia, which point to infection of the nervous system." These symptoms usually last a few days, and no trace of the disease remains except prostration, which may be prolonged. Nausea, vomiting and diarrhoea have frequently been observed in association with the above type. Wickman distinguishes the following varieties:



1. Cases running the course of a general infection.
2. Cases in which signs of a meningeal irritation are especially prominent.
3. Cases accompanied by distinct tenderness.
4. Cases with gastro-intestinal disturbances.

Patients afflicted with poliomyelitis should always be isolated. As it is known that the virus exists in the nasal and buccal mucous membranes, careful disinfection of discharges therefrom should be given and the nose and mouth cleansed two or three times a day with 0.2% potassium permanganate or chlorine water.

In a previous review I wrote concerning the serum treatment of poliomyelitis. It consists in injecting intrathecally serum obtained from a patient who has recovered from the disease. Flexner and Amoss have shown that such injections are effective when introduced in the pre-paralytic stage in delaying and preventing poliomyelitis in the monkey. Netter has used this method with unquestionably good results in cases of poliomyelitis. It is useless to resort to this treatment after paralysis has become established. It has been found to be especially useful in the ascending form of the disease.

Osborn Building.

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**Lactic Acid Bacilli.**—Bendick<sup>1</sup> has investigated a number of commercial preparations of *Bacillus bulgaricus* with unfavorable results. He finds that only a small number of the preparations contain anything like the number of organisms represented by the manufacturers. Many are sterile, containing no living organisms. Stained smears are of no value, as most of the germs represented are dead. The best preparations were found to be broth cultures obtained direct from the manufacturers. Tablets are useful if the product is to be conveyed for a considerable distance. Some of the tablet preparations are potent, but many are sterile and some are heavily contaminated. He suggests that the manufacturers should send out the preparations with the date of manufacture marked, and a statement of how long the preparation is potent. The preparations should be kept in a suitable ice box as much as possible till they are used.

Lloyd-Williams<sup>2</sup> insists upon the clinical value of lactic acid therapy in *Bacillus Coli* Infections. Lactic acid added to the extent of 1 per cent to gelatine culture media inhibits the growth of *B. coli*, and similarly the lactic acid produced locally by growing lactic acid bacilli inhibits the growth of *B. coli*, as can be shown by inoculating MacConkey gelatin plates with strokes of the two organisms crossing at right angles. Both organisms grow except at the points where the strokes cross. Here mixed growth is inhibited. He records several interesting surgical cases in which the local application of lactic acid, either as a 10 per cent aqueous or glycerin solution, markedly improved local purulent conditions due to infection with *B. coli*. These cases show the value of lactic acid in suppurative abdominal conditions due to infection with *B. coli*.

References.—<sup>1</sup>*Jour. Amer. Med. Assoc.*, 1915, i, 809; <sup>2</sup>*Middlesex Hosp. Jour.*, 1915, Feb., 206; *The International Medical Annual*, 1916.

## REVIEW OF THE PROGRESS OF MEDICINE

By HAROLD FEIL, M. D., Cleveland

*The Pathologic Effects of Atmospheres Rich in Oxygen.*  
Howard T. Karsner. *Journal of Experimental Medicine*, 1916,  
XXIII, No. 2, 149.

Doctor Karsner's very practical work is so important that it bears an extensive review. "The fact that oxygen is being used freely as a therapeutic agent as a prophylaxis against asphyxia in anesthesia, as a protective agent in certain industries, in some forms of deep sea diving apparatus and in high ascents into the air, makes the study one of practical importance." Doctor Karsner investigated "the effects on the organism of high oxygen partial pressures (80 to 96 per cent) under ordinary barometric pressure, particularly from the point of view of pathological anatomy and histology." The literature of the work done in this field is summarized.

Benedict's respiration apparatus for small animals was used in the experiments. The rabbits were studied before the experiments, thus excluding all pre-existing pathology. Normal rabbits, as controls, were thoroughly studied pathologically to determine the variations of the normal. Many lesions were found in the organs of the controls, but were "fortunately, most of subacute and chronic nature and could not reasonably be attributed to the relatively short exposure in the chamber." Doctor Karsner's conclusions are so clearly drawn that they may be copied verbatim:

"In spite of numerous abnormalities or non-experimental lesions in the rabbit certain facts can be considered as established. It has been known for many years that pneumonia is produced by the more or less prolonged inhalation of high partial pressure of oxygen. The studies herein reported show that atmospheres containing 80 to 96 per cent oxygen under normal barometric pressure produce in 24 hours, or more commonly 48 hours, congestion edema, epithelial degeneration and desquamation, fibrin formation and finally a pneumonia, probably of irritative origin and to be described as a fibrinous bronchopneumonia. The important new points are the time relations of these changes and definition of the type of pneumonia.

"Other studies have noted slight passive congestion, but it is now established that this is to be accounted for in most cases by



dilatation of the right side or of both sides of the heart. This congestion affects all the abdominal viscera and is accompanied by certain secondary changes, such as cloudy swelling of the parenchymatous organs and phagocytosis of erythrocytes by endothelial cells of the mesenteric lymph nodes.

"Although deficiency of oxygen may affect the hematopoietic system, the animals subjected to high oxygen percentages failed to show any demonstrable pathologic changes in blood, spleen, lymph nodes or bone marrow, except for the presence of congestion."

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**Poison Laws and Ordinances.**—Reprint 330, a supplement to U. S. P. H. S. Public Health Bulletin 56, just issued by the United States Public Health Service, is a digest of laws and regulations relating to poisons and habit-forming drugs enacted during 1914 and 1915. It is the third supplement to Public Health Bulletin 56, issued November, 1912, in which were presented all the Federal, State and Municipal laws and regulations on poisons and habit-forming drugs then in force. The other supplements, reprints 146 and 240, completed the compilation and brought the material up to the dates of publication. The third supplement follows the plan of arrangement and classification established in Public Health Bulletin 56 and the two preceding supplements, the four pamphlets forming a complete and uniform compilation of laws and regulations on this subject. Increasing attention on the part of legislators is being given to the regulation of poisons and habit-forming drugs. Lack of uniformity in the various State laws, and lack of a standard definition of a poison are two of the most serious defects at present. The enactment of the Harrison Narcotic Law, while it has led to the amendment of several State laws, has "in some instances at least increased rather than diminished the problems involved," in the opinion of the author, Martin I. Wilbert. As a practical result of the enactment of the Harrison law, those familiar with wholesale trade conditions assert that the sales of the proscribed drugs have been reduced fully 50 per cent. Wilbert thinks that the elimination of the guaranty clause in medicine labels, under the national Food and Drugs Act, will remove a potent possibility for misleading the public. Laws regulating occupational intoxications were enacted during 1914 and 1915 in two States, while laws restricting the use of wood alcohol are increasing in number and comprehensiveness. Eight States enacted laws prohibiting the manufacture and sale of alcoholic liquors. The laws regulating pharmacy have been amended in eleven States, while four States have legally adopted the Pharmacopeia and National Formulary as standards. Naturally, such a compilation is largely a record of details which it is impossible to enumerate. This pamphlet and the two preceding supplements, with the original bulletin, form a complete collection of laws and ordinances on poisons and habit-forming drugs with comments, tables and much additional illuminating material.—*Journal of the American Medical Association.*

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**RECENT ADVANCES IN PEDIATRICS**

By HUBERT C. KING, M. D., Cleveland

*Cerebrospinal Fever.*

There are many lessons to be learned from the Great War—even lessons in pediatric medicine. During the end of 1914 and the early months of 1915, and again last winter, a considerable number of cases of epidemic meningitis occurred in the British Isles and among the troops of the Allies on the Continent. Great interest was aroused in the disease and many articles appeared in the British and French journals.

The present outbreak teaches us that cerebrospinal fever is a disease of low morbidity, but high fatality. A very important fact is that the meningococcus is found in a certain number of healthy persons or "carriers." Following an epidemic, the convalescent patients furnish a large number of "carriers."

The disease shows a seasonal incidence in the winter and early spring. It has been suggested that this is because of the ordinary catarrh of the nasal passages, prevalent at this season, and because of overcrowding and lack of ventilation.

The consensus of opinion is still in favor of anti-meningococcic serum. There was at first some disappointment regarding the serum, but the trouble was found to be in the meningococcus itself. There are several strains of the organism. To be effective, the serum must be multivalent and must include the parameningococcus. During an epidemic it is well to immunize horses with the prevailing strains of cocci.

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*Malt-Soup.*

The use of malt-soup hardly constitutes a recent advance in pediatrics, as it was advised by LeRoy in 1805, and elaborated by Von Liebig in 1865. Still there has been some recent advance in our knowledge of its field of usefulness. Its greatest use is in cases of weight-disturbance, that is, in the case of the child who fails to gain properly on reasonable amounts of fat, sugar, and protein. These children often thrive on malt-soup. The contraindications seem to be found in babies under four months, and in cases with vomiting or diarrhea. There are usually four large, bulky stools daily. Mitchell, in *Archives of Pediatrics* for January, 1916, gives the following formulas as useful:



- (1)— $\frac{1}{2}$  ounce wheat flour.  
10 ounces skimmed milk.  
10 ounces water.  
1 ounce malt extract.  
Fat, 0.2%—Carbohydrate, 7.5% (of which 2% is starch)—Protein, 2.2%.
- (2)— $\frac{1}{2}$  ounce wheat flour.  
5 ounces skimmed milk.  
5 ounces whole milk.  
10 ounces water.  
1 ounce malt extract.  
Fat, 1%—Carbohydrate, 7.5% (of which 2% is starch)—Protein, 2.2%.
- (3)— $\frac{1}{2}$  ounce wheat flour.  
10 ounces whole milk.  
10 ounces water.  
1 ounce malt extract.  
Fat, 2%—Carbohydrate, 7.5% (of which 2% is starch)—Protein, 2.2%.
- (4)— 1 ounce wheat flour.  
10 ounces whole milk.  
10 ounces water.  
 $1\frac{1}{2}$  ounces malt extract.  
Fat, 2%—Carbohydrate, 11% (of which 3.8% is starch)—Protein, 2.6%.
- (5)—  $1\frac{1}{2}$  ounces wheat flour.  
10 ounces whole milk.  
10 ounces water.  
 $1\frac{3}{4}$  ounces malt extract.  
Fat, 2%—Carbonhydrate, 14% (of which 5.7% is starch)—Protein, 2.9%.
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*Hypoplasia of the Teeth.* *Med. Journ. of Australia*, 1915-11, p. 412.

H. Sutton reports that, of 141 immigrants examined, 11% had definite honeycombed teeth, 6% showed marked patchy opacities, and 83% showed nothing remarkable. These teeth are dark and have "marked depressions, pits and gullies." Incisors, canines and first molars of the permanent set are affected. Sutton attributes the affection to rickets, plus the use of hard-water.

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*Pyelitis in Infants—Mode of Infection.* Richard M. Smith. *American Journal of Diseases of Children*, Vol. 12, No. 3, Sept., 1916.

Two theories have been advanced as to the mode of infection: (1) Ascending infection through the urethra, bladder, and ureters. (2) Carried to the kidney by the blood and lymphatics. Those supporting the ascending theory use as an argument the fact that the infection is more common in girls and attribute this to the short urethra and the ease of contamination with fecal matter. Bond has shown the possibility of bacteria ascending the urinary tract while no urine is coming down. On the other hand, certain observers have placed living cultures of *B. Coli* and *B. Tuberculosis* in the bladder and find that they are excreted without the formation of any lesion. Franke has demonstrated the presence of lymphatic connection between the colon and the right kidney. In unilateral infections the right kidney is most commonly involved. The organisms are thus supposed to be taken from the intestinal tract and carried to the kidney. They pass through the glomeruli and are excreted at the pelvis, where they produce the lesion. In these cases, the colon bacillus has been isolated from the blood by Crabtree, Moser and Ruediger. Kowitz has emphasized the seasonal incidence of pyelitis following summer diarrheas. In many cases the organism must pass through the kidney and be excreted, without causing trouble.

The question remains, as to why the disease is more frequent in girls. Many cases arise as in boys. Many originate in the pelvic organs. Sobotta and Poirier have shown that the lymphatics draining the pelvic organs connect, by free anastomosis, with the kidney. They drain through the thoracic duct into the blood. Sweet and Stewart cut the ureter and sewed it into the intestinal canal. Infection took place through the lymph channels and not through the lumen of the ureter.

In the majority of cases the infection arises from the gastrointestinal tract. The focus may lie in the teeth or tonsils.

Not all will agree with the opinions expressed above. Athole Ross (*Lancet*, 1915, II, 654) thinks that infection, in most cases, is due to a direct passage of the organisms from the anal orifice to the urethra. He also believes that impairment of the resistance of the patient is an important factor.

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## PUBLIC HEALTH NEWS

R. H. BISHOP, JR., M. D., Commissioner of Health.

J. D. HALLIDAY, Chief, Bureau of Health Education

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### Disease Prevention Week

Co-operation of all physicians is asked for Disease Prevention Week, to be held under the auspices of the Department of Health from September 25th to 30th.

Physicians who are members of organizations which would be able to participate in the celebration in any way are requested to get in touch with Commissioner of Health, Doctor R. H. Bishop, Jr., who will then see that their offer is placed before the proper local ward committee.

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### New Issue of Health Bulletin

A Schoolchildren's Number of the bulletin of the Health Department has just been issued by the Bureau of Health Education. Copies will be distributed through the schools and city dispensaries. Physicians desiring free copies for distribution among their practice will receive a supply of copies if they will make their wants known to the Bureau of Health Education, Room 115, City Hall.

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### Danger From Dogs Is Not Over

Doctor E. C. Rouche, Chief of the Bureau of Food and Dairy Inspection, has started a campaign to offset the popular impression that there is danger from rabies only during the so-called "dog days."

He points out for the benefit of the general public that his bureau has to deal with just as many if not more cases of dogs suffering from rabies during the cold months as in the summer months. He asks the aid of the profession in helping to do away with the public's general misconception regarding the menace of mad dogs.

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### Typhoid Carriers

There are thirty-five typhoid "carriers" in New York City, the Health Department announces, and the list is growing.

The Board of Health has placed them on the list of "danger spots." This method of dealing with "carriers" has grown out of

the lessons learned through tracing the career of "Typhoid Mary," who attained national celebrity a few years ago when several epidemics of typhoid were directly traced back to the positions in which she had been employed as a cook.

She was a good cook and never long without work, but after the experts found out that the dread typhoid followed all of her engagements they decided she must be restrained for the safety of the city.

She finally was allowed at large under the terms of a parole under which she promised never again to accept a position where she might handle food intended for human consumption.

A re-discovery of "Typhoid Mary" came about under tragic circumstances. She had broken her parole and accepted a position as cook in the Sloane Maternity Hospital, and within the accepted period of incubation of that disease there appeared twenty-four cases of typhoid fever among the physicians, nurses and patients in that institution.

"Typhoid Mary" was taken in charge again by the Department of Health, and she is now, after two attempts in court to obtain her release, a patient in a hospital on North Brother Island, where she is likely to pass the remainder of her days.

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#### Spearing Sharks Who Seek Plague Victims

Health Commissioner Bishop is taking steps to warn parents of children who have been crippled by infantile paralysis to steer clear of the advertising sharks and charlatans who offer new and sure cures by "radium plasters," electric baths and serums or other devices. There is no hope of recovery from the paralytic effects of this disease, except under the direction of the trained physician, so the department is warning parents.

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**Tbe. Meningitis Simulating Tabes.**—Alzona describes the case of a girl of 15 who developed pains in the spine and legs, headache and vomiting after meals, with delirium. These occasional symptoms kept up for six months. The Romberg and Westphal signs were positive and there were also pronounced ataxia, gastric crises and girdle pains. The cerebrospinal fluid was hemorrhagic, but inoculations of animals was always negative. Necropsy revealed tbc. foci in the lungs and meninges, but other lesions suggested those of tabes. The case confirms the assumption that the hemorrhagic type of tbc. meningitis is liable to induce lesions in the nerve roots like those of tabes.—*Meningite tubercolare emorragica a lungo decorso, con sindrome e lesioni istologiche di tabe iniziale*, F. Alzona, *Polichinico*, April 9, 1916.

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**"Paralysis of the Conscience"—The Value of an Epidemic.—**

It takes a catastrophe to arouse people to action. If the interest in public health problems aroused throughout the country by the present outbreak of infantile paralysis can be so directed and utilized as to result in establishing permanently more energetic health measures all along the line, the outbreak may prove a blessing in disguise.

"Sanitary legislation in New Jersey had its inception in the prevalence of yellow fever. The organization of boards of health was undertaken at a later period because of the prevalence of Asiatic cholera in the State. If the public health movement be advanced a step further by the present outbreak, the profit may be greater than the loss. The value of an epidemic depends upon the degree to which it stirs people to intelligent, effective action.

"Already the stirring effect of the policy of frank publicity adopted by the New York City health authorities is being keenly felt everywhere. Local authorities in many communities are taking speedy and even drastic, though often ill-advised, preventive measures. As a result, there are being revealed long-standing conditions that never should have been tolerated under any circumstance, and a woeful unpreparedness on the part of the local authorities in some communities to meet public health emergencies.

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"There is danger that the relative importance of infantile paralysis may become greatly exaggerated in the public mind. As a cause of sickness and death it is not nearly so important as any one of a number of other diseases with which people are now afflicted.

"Diphtheria, for example, takes a much greater toll than does infantile paralysis. Through the action of a specific toxin, diphtheria also sometimes causes paralysis. Scarlet fever, typhoid fever, measles, and even whooping cough, are each much more important causes of death than infantile paralysis. Scarlet fever often causes permanent deafness in those that recover. Tuberculosis is many times more important than infantile paralysis, both as regards the amount of sickness it causes and the number of people it kills. As for the babies, diarrhoea will carry off more of them during a hot summer month than infantile paralysis will ordinarily claim in a dozen years. Yet there is no excitement over any one of these diseases.

"Some of them are far more preventable than infantile paralysis, because much more is known about them. Typhoid fever, for example, is a disease that need not exist at all if all that is known about it were actually utilized. The present knowledge of diphtheria is sufficient to cause its disappearance if practically and thoroughly applied. The diarrhoea of infants might soon be made a medical curiosity by the universal application of known principles of infant care.

"Why give so little attention to some of the most important diseases, and so much attention to a less important disease? Can it be due to paralysis of the conscience with reference to those diseases that are common?"—*Public Health News of the Department of Health of the State of New Jersey.*

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**Rest of Lung by Posture.**—The authors suggest to attempt to train tbc. patients to rest at night and during the daytime on the more afflicted side, and in addition to place a small, firm pillow under this side to restrain to a greater degree its motion. The application of the principle suggested would seem to have been efficacious in many patients for a year past in reducing the amount of sputum, promoting healing, hindering relapses and diminishing fever.—*Rest of individual lung by posture, Webb, Forster & Houck, Colorado Medicine, May, 1916.*

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# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
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## EDITORIAL

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### THE VALUE OF THE RECENT MEETING OF THE WESTERN RESERVE MEDICAL ALUMNI ASSOCIATION

That an alumni meeting has great possibilities was demonstrated in June. It need not be a stupid proceeding where representatives from the oldest to the youngest graduates utter the



usual annual platitudes. Meetings of the alumni should be full of enthusiasm, times of rousing patriotism, places for the renewal of vows whence will develop an increased devotion to the varied interests of the alma mater and consequently awaken a new strength, spirit, energy and sacrifice in the University. There is no finer indication of the appreciation one has of benefits he has received than a constant return to the source of his inspiration for life and for work, and no greater encouragement to those who aroused in him his hopes and ideals, than this annual con-course of old students in the University halls.

In June last, four hundred and fifty alumni of the Western Reserve Medical School assembled at the annual meeting. This is twenty-five per cent of all graduates of the medical schools. A large number of the students of old Charity and Wooster Schools and their successors, the College of Physicians and Surgeons, were present and the greatest amity and interest were manifest. For three days there were clinics every hour of the day in Charity, St. Luke's, City and Lakeside Hospitals, which were well attended by the visiting physicians.

The Saturday morning clinic at the City Hospital conducted by Doctor John D. Deaver, of Philadelphia, was crowded. After the clinic three hundred sat at luncheon upon the invitation of Doctor McFarland, Superintendent of the Hospital. The hospitality shown by the city and the various private institutions contributed largely to the scientific and social success of the meeting.

Friday afternoon there were lectures which were concerned with the application of scientific methods to bedside practice. These aroused not a little interest. To those not familiar with laboratory methods there is much of mystery and misunderstanding; they are not aware how simple many of these methods are before which they tremble or shrink in unnecessary ignorance. The lectures made clear many things that need not be left to laboratory experts, but can be carried out by the physician. A thought pregnant with possibilities came to some as the result of

these demonstrations and it took the form of a practical Post-graduate Summer School that would attract many local practitioners at least.

The climax of the whole occasion was the formal meeting, dinner and oration at the University Club. The spacious banquet-hall of the Club was filled. The classes sat together and renewed old and lost acquaintances. Near the orchestra was a group of selected singers who acted as a choir. The songs were well chosen and a program arranged so that the music was appropriate, inspiring, abundant and at times thundering. It is doubtful whether the halls of the Club ever echoed louder, and they have had great opportunities. Doctor Deaver's address was scholarly and suggestive and gave point and touch to the festivities.

This meeting was made the occasion of the presentation of the portrait of Doctor G. C. E. Weber and Doctor H. H. Powell to the University. The Weber portrait is a replica of the work by Mr. F. W. Simmons, now hanging in the Cleveland Medical Library which has been so much admired, and the Powell portrait is an admirable painting by the same artist from a photograph. Both pictures were much liked and everyone was gratified that they were to hang with the older portraits in the Faculty Room.

That the Alumni Meeting was so notable a success is due to the continued efforts of Doctor F. C. Herrick, the President of the Association. The affair was well organized and every detail was carried out without confusion. The clinic hours were met on time and replete with interesting demonstrations, discussions and operations. Possibly this meeting is a forecast of what future ones will be. If this proves to be so it will not be long before a thousand graduates will return to show their fealty to their college and regain their spirit and enthusiasm.

J. H. L.

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**DR. JOHN B. MURPHY**

On August 11, 1916, the world lost one of its greatest surgeons and the American surgical profession its leader. Yet, while the loss to his community, his associates and the surgical world cannot be measured, his was the enviable lot of the great worker who leaves in the midst of his activities with spirit, power and influence unabated by age or other infirmities.

The "Murphy Clinic" was the Mecca to which surgeons from all parts of the United States and from foreign countries looked for inspiration. His clinical talks, in their lucidity, logical deductions and originality, were unequaled; and from no other clinic have there issued so many original and practical contributions to surgery. Dr. Murphy's *dicta* regarding new procedures were always accepted with confidence in the knowledge that before applying them himself every step had been verified by painstaking experimentation.

There is no surgical field which has not been influenced by his master mind—no one can think of surgery of the abdomen, the lungs, the nervous system, the bones and joints, without at once connecting the name of Murphy with some vital contribution to each field.

His greatness was never more exemplified than by the courage of his last months, when in the grasp of an illness, itself the result of his unremitting and great labors, he still continued to extend his services to his patients and to teach in clinic and by publications.

We may well regret the loss of the achievements which in the light of his past accomplishments might well have been expected during the additional years of life which should normally have been his. Although his surgical practice was limited to thirty-seven years, yet he accomplished enough in that time to make him the greatest surgeon of his time.

G. W. C.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Acidosis:** In the June number of *American Medicine* Geo. W. Crile states concerning certain criteria of acidosis and their clinical application, that although the efforts of himself and his co-workers to find a method by which the *degree* of acidosis or its imminence may be determined, have proved unavailing, yet in the light of laboratory researches, and clinical observations, the clinical signs of the presence of acidosis are unmistakable. The available methods of prevention are obvious, and the means by which an established acidosis may be treated are limited. We know that acidosis may be caused: (a) by an intake of a smaller amount of alkalies and bases than are required to maintain an alkaline or neutral state; (b) by an excessive rate of acid production; or (c) by interference with one or more of the organs of acid elimination. The symptoms of acidosis are increased respiration, to the significance of which he has already referred, increased pulse-rate, progressive loss of mental and muscular power, restlessness, and, in extreme cases, delirium and unconsciousness. Usually the face and extremities are flushed; there is sweating and the face appears shrunk. This combination of symptoms is identical with that exhibited in physical exertion, emotion, infection and pre-eminently in exophthalmic goitre; in starved cases of cancer or ulcer of the stomach, etc. The value of alkalies in the treatment of shock was demonstrated in 1903 by Howell, whose conclusions have been corroborated by other workers, notably by the researches of Seelig in collaboration with Tierney and Rodenbaugh. Crile's researches, which identify the histologic lesions of surgical shock with those of acidosis, give further evidence of the value, though limited, of alkalies in the treatment of acidosis from any cause. The value of sodium bicarbonate in the treatment of acidosis, notably in the treatment of acidosis in children, has been admirably demonstrated by Howland and Marriot. Alkalies should be pushed, therefore, in every case in which the typical symptoms of acidosis are present; in which the disease processes directly affect either the great acid neutralizing organ—the liver—or the acid eliminating organ—the kidney—in which the production of acid is so rapid that the normal processes of neutralization and elimination cannot keep pace with it, as in exophthalmic goitre, for example; in any case, in fact, in which the patient's reserves have been reduced. But, unhappily, alkalies have only a limited power of overcoming acidosis; in many instances they have apparently no influence. For the promotion of acid-elimination, water should be given freely by mouth, by the Murphy drip, or by infusion. In serious cases as much as 2,000 c.c. should be given subcutaneously in 24 hours. Summing up the clinical and experimental studies, the conclusions are that clinical observation gives a more accurate test of acidosis than any laboratory method. The sensitiveness of the respiratory centre in its specific response to the degree of H-ion concentration is a human biologic test of greater delicacy than any known laboratory test. And finally the conclusion is reached that acidosis, like exhaustion, is an end effect, beyond which lies the ultimate solution of the problem.

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**Diarrhoea:** Edward Mellanby, in the *Quarterly Journal of Medicine* for April, treats of the diarrhoea and vomiting from the experimental standpoint. As to the condition existing in a child suffering from an acute attack of diarrhoea and vomiting, he does not discuss the primary condition beyond saying that a child's alimentary canal is capable of being deranged by many causes not necessarily bacterial in their nature. Such a child has then: (1) no food in its alimentary canal and no water; (2) a deficiency of body fluids to a greater or less degree; (3) a loss of bile, including more particularly bile salts; (4) no reserves of absorbed food-stuffs in its whole economy. These are precisely the conditions demon-



strated in animal experiments for: (1) allowing toxic substances to be absorbed from the alimentary canal at a maximum rate; (2) allowing the absorbed toxic substances to have their maximum effects. It is thus clear that once the condition has been set up, the effects are cumulative, the child becomes more and more susceptible and death ultimately ensues; of these results the most important seems to him the loss of body fluids. As to treatment, he finds that while the deductions from the experimental conditions of his work can perhaps not be applied altogether to the treatment of diarrhoea and vomiting of children, he yet believes that clinically certain facts are indicated: (a) The necessity of increasing the body fluids to normal. The injection of fluid is, of course, a recognized treatment already used clinically, and the animal experiments he describes only confirm this view, and possibly place it on a more scientific basis. He points out two things to remember: (1) That an animal with deficient body fluids has lost most of its power of resisting any toxic action; (2) that by increasing the body fluids well above the normal the resistance to toxic action is greatly increased. From these facts it will be seen that if a child continues to vomit everything, including water, then it is better to inject a sterilized saline solution into the blood stream directly, rather than subcutaneously. Intravenous injection, however, into a young infant with empty vessels is generally difficult and often impossible, and in these cases one is reduced to subcutaneous injection of salt solution. As soon as vomiting subsides the child should be given large quantities of fluid by mouth. To give a saline solution subcutaneously to a child, the best plan is to place it in a thermos bottle, and to give it continuously in this way. Quantities of a pint can be given in this way in a few hours, and repeated till water can be taken by the mouth. As to feeding, he advises a solution of dextrose with 0.5 per cent of HCl as most reasonable, and if retained pass on to a solution of whey, then to diluted milk. As to purgatives, he believes if magnesium sulphate is used it should be in large doses to be effective. He also advises castor oil, as fats have a protecting action on the organism; as to the value of calomel he is unable to say. While morphine and opium are often recommended in clinical text-books in this condition, he thinks it should, if used at all, be only for suppressing the symptoms of diarrhoea and vomiting. It rather depresses the respiratory centre, and can have no action in suppressing the absorption of toxic substances from the alimentary canal.

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**The "Karell Cure":** Edward Harris Goodman, in the *Archives of Internal Medicine* for June (Part 1), treats of the use of the Karell cure in the treatment of cardiac, renal and hepatic dropsies. In these conditions drugs, physical therapeutics and diet form the triad upon which reliance is usually placed, and generally speaking in the lay as well as in the professional mind, the greatest of these is drugs. It may be stated without fear of serious criticism that the majority of cardiac dropsies and a large proportion of renal as well, will improve upon rest in bed and an appropriate diet. The diet which has served him best and which he has employed successfully for some time is that known as the Karell diet or the Karell cure; he has used it in between a hundred and a hundred and fifty cases, approximately. The technic of the Karell cure is simple and easily carried out as far as the physician is concerned. The patient receives daily at 8 A. M., 12 M., 4 P. M. and 8 P. M. 200 c.c. of raw or boiled milk, warm or cold, according to taste. No other food or liquid should be given. Thirst is particularly tormenting during the first three or four days of the cure, and often it is necessary to allow the patient to rinse his mouth with water, instructing him to swallow none. Hunger is not so common a complaint, but when urgent a small piece of dry toast or zwieback may be given with each portion of milk. Just how long this very strict diet is to be continued depends on the rapidity with which edema diminishes and on the patient's plea for more food. Usually

the diet may be increased at the end of a week's time by giving a soft boiled egg without salt or pepper at 10 A. M. and a piece of zwieback at 6 P. M. A gradual increase may follow until a full diet is allowed. During this time the daily quantity of fluid should not exceed 800 c.c. and this fluid should be in the form of milk until the patient receives a full diet, when the milk may be dropped and cocoa or tea used, the amount of fluid, however, remaining the same. No more than 800 c.c. of fluid should be taken for from two to four weeks after the disappearance of the edema. During the cure, during which the patient must remain in bed, the bowels must be kept open, laxatives in pill form being preferable merely because they require no water for their administration. The full diet should be salt poor. The benefits following the Karell cure have been ascribed to three factors: the reduction of the amount of fluid, the minimum of salt contained in the milk, and finally to the melting of the body protein. When improvement does not follow the Karell cure alone, drugs must be used, of which digitalis, theocin, caffein and strophanthin seem especially suitable. Patients showing symptoms of uremia should not be put on the Karell cure, which restricts the fluid intake to a minimum.

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**Syphilis:** In the *New York Medical Journal* for July 15th, Eugene D Bondurant considers syphilis of the nervous system. The clinical symptoms and disease syndromes caused by the action of the syphilitic poison upon the nervous system are merely perversions of or qualitative alterations in normal nerve cell function. He insists that the so-called nervous diseases due to syphilis are in essential character not nervous diseases at all—they are just syphilis. They should be recognized as syphilis, studied and discussed as syphilis, treated as syphilis, and should above all things be divested of the mystery which seems inseparable from nervous diseases. When we cure syphilis in its early and curable stage, we will at one stroke wipe out the entire long and pitiful array of syphilitic nervous diseases. In no other way and at no other time can these diseases be cured. Let us teach our patients and the public also that while they are, after the stage of full development is reached, as hopelessly incurable as any class of diseases known, they are all curable in their early stages and all absolutely preventable. The time to treat and to cure syphilis of the nervous system is in its incipient stages before not after the poison has irretrievably damaged the neurons. He here emphasizes the great importance of making an early diagnosis. The proper time to diagnose locomotor ataxia, for instance, is not after the patient becomes a typical case for demonstration before a class of medical students, but during the pre-ataxic stage of fugitive rheumatoid pains, inconspicuous sensory dulling and early disorder of the pupillary reflex. He sums up his paper in three sentences: 1. Syphilis of the nervous system is syphilis, and not a nervous disease. 2. Syphilis of the nervous system is recognizable by examination in its early stages. 3. Syphilis of the nervous system is during its early stages curable by any and all measures which will cure syphilis. In its later stages, after the death of the nerve cells, it is incurable by any means whatsoever.

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**Paralysis Agitans:** In the *Medical Record* for July 15th, Wm. N. Berkeley reports upon the treatment of paralysis agitans with parathyroid gland. He states that the Swedish neurologist Lundborg and himself, working along different lines and each independently of the other, conceived the idea that paralysis agitans is possibly due to some chronic disorder or disease of the parathyroid glands. Paralysis agitans has all the marks of a chronic toxemia; and a remarkable percentage of cases of paralysis agitans treated with properly identified fresh gland or a properly made extract have been greatly benefited. In this country the only glands generally available are those of the bullock. He has used fresh glands with some success. But they are very expensive, not per-



manently palatable, and not accessible to the great majority of patients. Much the best preparation is an acetic extract of the fresh glands commonly though very inaccurately called a "nucleoproteid" extract, made by treating the ground or triturated glands with cold distilled water, filtering, and then precipitating with a very minute amount of acetic acid. This extract in doses of one-fiftieth grain (either in capsule with milk sugar or as a hypodermic solution) is now for sale in a number of New York drug stores. It is not very expensive and is absolutely without local effect of a disagreeable nature. In the form recommended by him it has been used extensively for five or six years in hundreds of cases. It is not a cure, but 60 to 70 per cent of the sufferers from this dreadful disease who have given the remedy a fair trial for from three to six months (it takes all of this time to test it) have been greatly benefited and the progress of the disease arrested or very materially retarded. He is of the opinion that paralysis agitans is due to a deficiency of the parathyroids and that ultimately it may be possible to cure it with the parathyroids as cretinism is cured with thyroid.

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**Renal Disease:** The July number of the *Therapeutic Gazette* takes the ground that in a goodly proportion of cases of chronic nephritis it is unwise to place them on a rigid non-nitrogen diet, since it is advantageous to maintain the nutritional equilibrium if possible in every one, and also because it has yet to be proved that a non-nitrogenous diet is essential, and, again, the use of a moderate quantity of protein food serves to maintain strength and to compensate for the loss of albumin in the urine. He quotes Boyd to the effect that "in chronic nephritis dietetic treatment must be largely governed by an estimation of blood nitrogen. If there be no nitrogen retention it is inadvisable to keep the patient on a strict non-protein diet, as nutrition suffers. Short periods of nitrogen-free diet are often useful and beneficial to the renal function, and the cardiovascular symptoms, but the patient's nutrition must always be kept in view." He concludes that whatever toxic agent underlies the hypertonus of nephritis, it is not due to gross nitrogenous retention, and he makes the important observation that the mere existence of high blood pressure is not a necessary indication for a strict non-protein diet. The editor has seen so many cases of nephritis in which the strength of the patient has materially improved when he has been allowed a fairly free protein diet that he calls particular attention to this observation of Boyd's. He gives these conclusions: 1. That nitrogen retention does not occur in all nephritics. 2. That when the non-protein of the blood rises to 50 mgs. per cent it is a distinct warning of grave renal inadequacy and is an urgent call for rigid non-nitrogenous regimen. 3. That nitrogen values about or over 100 mgs. per cent justify the gravest prognosis. 4. There is no definite relation between nitrogen retention and high blood pressure. The estimate of the non-protein nitrogen of the blood is of great clinical value.

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**Aconite and Veratrum:** Samuel E. Earp, in the August number of the *American Journal of Clinical Medicine*, presents his experience with some old-fashioned drugs and writes as to aconite that after a "Rip Van Winkle" experience, in the case of some practitioners he is glad to find that aconite is getting its full recognition. For some, aconite is almost a new remedy, while others have refreshed their memories, and still others have continued to recognize it as one of their potent agents in practice. To those who know, aconite (and aconitine) has been almost a substitute for the lancet. In the acute infections characterized by a high, resisting pulse, skin hot and dry on vascular excitement, it is unequalled. It cannot be supplanted by any other drug in the first few days of scarlatina, measles, tonsillitis, rheumatism and in inflammation of the serous membranes. In continued fevers it should not be used. As in typhoid, it is not necessary. What better can be used in excessive heart

action as, for instance, in exophthalmic goitre or palpitation from some lesion of the nervous system? Only there must be no evidence of valvular disease or dilatation. In the diseases of infancy and childhood it has no superior, and no other agent can successfully take its place. It is, too, a positive agent, acting at once, and can be given symptomatically. Its action should be watched; in ignorant and careless hands it is dangerous, but given intelligently and cautiously it is reliable and safe. He prefers the tincture in  $\frac{1}{2}$  to 1 minim doses every twenty to thirty minutes till effect or some contraindication arises. Some prefer aconitine in appropriate dose, recording good results from its use. As to veratrum, he believes it should be more frequently used. A point to be considered is that if the patient is not quiet the best results are not obtained. With a satisfactory circulation under its use the pulse changes perceptibly when he assumes the upright position. So when giving it, keep the patient quiet for good results. This injunction does not apply to this drug only.

### NEW AND NONOFFICIAL REMEDIES

**Fibrin Ferments and Thromboplastic Substances (Kephalin).**—The clotting of blood has been shown to be due to the action of the fibrin ferment on the fibrinogen of the blood. The fibrin ferment (thrombin) exists in the blood in the form of prothrombin, which is converted into thrombin by the action of calcium and thromboplastic substance (thromboplastin). Kephalin, prepared from the brain, has the properties of thromboplastin. Preparations containing thromboplastin are said to be useful, when applied locally, in the treatment of hemorrhages, especially hemorrhages from oozing surfaces, scar tissue and nosebleeds. The intravenous use of thromboplastin in certain conditions has also been proposed.

**Brain Lipoid.**—**Impure Kephalin.**—This is an ether extract of the brain of the ox, or other mammal, prepared according to the method of Howell and Hirschfelder. It has the properties of thromboplastic substance described above. It may be applied direct to the tissues or on sponges or pledgets, or it may be used in the form of an emulsion with sodium chlorid solution.

**Solution Brain Extract.**—**Solution Thromboplastin-Hess.**—An extract of ox brain in physiologic salt solution prepared by the method of Hess. It has the properties of thromboplastic substances described above. The solution may be applied directly to or sprayed on the tissues, or by means of a sponge or tampon.

**Galactenzyme Tablets.**—Tablets containing a practically pure culture of *Bacillus bulgaricus*. For administration in intestinal fermentative diseases. Put up in bottles containing 100 tablets each and bearing an expiration date. The Abbott Laboratories, Chicago.

**Galactenzyme Bouillon.**—A pure culture in vials of *Bacillus bulgaricus*, each vial containing about 6 Cc. Used internally for intestinal fermentative disorders and topically in nasal, aural, throat, urethral and other affections when the use of such a culture is indicated. Put up in packages of 12 vials each. The Abbott Laboratories, Chicago.

**Ampules Mercuric Salicylate**—Squibb, 0.065.—Each ampule contains 0.065 Gm. mercuric salicylate, N. N. R., in 1 Cc. of sterile suspension. E. R. Squibb & Sons, New York.

**Ampules Quinine Dihydrochloride**—Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

**Ampules Quinine Dihydrochloride**—Squibbs, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.



Ampules Quinine Dihydrochloride—Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride—Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride—Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride—Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride—Squibb, 1 per cent.—Each ampule contains 5 Cc. of a sterile 1 per cent solution of quinine and urea hydrochloride, N. N. R. E. R. Squibb & Sons, New York.

Ampules Sodium Cacodylate—Squibb, 0.13 Gm.—Each ampule contains 0.13 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York.

Ampules Sodium Cacodylate—Squibb, 0.05 Gm.—Each ampule contains 0.05 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Aug. 5, 1916, p. 437).

Arbutin—Abbott.—A non-proprietary brand complying with the standards for Arbutin, N. N. R. The Abbott Laboratories, Chicago (*Jour. A. M. A.*, Aug. 19, 1916, p. 586).

Ampules Mercury Iodide (Red), 1 per cent in Oil—Squibb.—Each ampule contains 1 Cc. of a solution of red mercuric iodide and anesthesin, each 0.01 Gm., in a neutral fatty oil. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Aug. 19, 1916, p. 586).

During August the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories:

Arbutin—Abbott.

National Pathological Laboratory:

Mercurial Oil—National Pathological Laboratory.

E. R. Squibb & Sons:

Mercury Red Iodide, 1 per cent., in Oil—Squibb.

Barium Sulphate—Squibb, for X-ray Work.

Liquid Petrolatum—Squibb.

**Focal Infection in Skin Diseases.**—M. L. Ravitch, Louisville, Ky. (*Journal A. M. A.*, Aug. 5, 1916), reports a series of cases illustrating the relations of focal infection to certain dermatoses. He says that it is an unfortunate fact that dermatologists have too much neglected the search for the true etiologic factors of skin disease and given more attention to nomenclature and classification. There has been a change recently in this regard, and credit is due to Billings and Rosenow, whose theory of focal infection has opened our eyes to the explanation of certain dermatoses of obscure etiology only a few years ago. With the key we now have we can trace relationships and diagnose intelligently. The cases he reports illustrate his statements, and they are only a few selected ones out of many. Not all systemic and skin derangements are due to focal infection. Many obscure diseases may be traced to faulty internal secretions, but these again on their part may be due to focal infection. It all teaches us to be on our guard and thoroughly examine doubtful cases, and above all, he says, let us treat the skin not as a surface only, but as a cutaneous organ, as capable of infection from within as any other organ.

INTERESTING POINTS BROUGHT OUT IN SOME OF THE  
PAPERS READ AT THE RECENT MEETING OF  
THE OHIO STATE MEDICAL ASSOCIATION  
IN CLEVELAND

*The Question of the Curability and the Duration of Treatment in Syphilis*

By LOUIS A. LEVISON, Toledo

When we consider the question of curability of a given disease we must take into account the clinical and the biological cure. Thus, we may consider a man cured of his syphilis when he shows no more clinical signs of the disease. On the other hand, we may not consider him cured until we can satisfy ourselves that his tissues no longer harbor spirochetes. However, a syphilitic, without clinical signs and not transmitting his infection to others, following efficient treatment, furnishes for us a satisfactory cure. That such cures are possible cannot be doubted. We shall consider the treatment of syphilis for the above end.

If one shall say that a syphilitic still harboring spirochetes in his body, is not cured, we may point out with equal justice that no tuberculous patient is cured as long as tubercle bacilli are recoverable from his tissues, anywhere. The clinical cure is the practical end in all disease. Furthermore, we may not even say that a biological cure in syphilis is impossible. Certainly, no man has yet sectioned the body of a syphilitic cured by modern day abortive methods.

Early diagnosis in syphilis is extremely valuable, and when once recognized, vigorous, intensive treatment should be pushed. When the first few days following syphilitic infection have passed without diagnosis, an abortive cure is not looked for. However, treatment should never be started without a positive diagnosis. There is no merit in the view that treatment should not be started until the Wassermann reaction is positive, it being held that development of the antibodies is a valuable aid to treatment.

How shall we determine whether the abortion of an early syphilis has been accomplished? Time may prove it, as indeed may a reinfection. Ninety-seven cases on record prove the abortive cure of syphilis by the reinfection method. Even when the abortive method is unsuccessful, the patient so treated will go for a longer period of time without clinical symptoms than a patient treated at a later stage. The abortive treatment hinders the generalization of the disease.

When the first few days following infection have passed without abortive treatment, the best method of treatment is salvarsan, repeated weekly for four or five injections, then mercury, the latter for as long as necessary. In the first years there should be a thorough mercurialization, also in the second and third years. The effort then should be to keep the blood Wassermanns persistently negative, the further treatment being gauged to this end in connection with the clinical signs.

The spinal fluid further furnishes a great aid to the determination of the existence of a clinical cure. Ideal conditions should demand a lumbar puncture in every case before the patient is dismissed. This, however, is often impossible. However, it is true that this form of examination is not done with sufficient frequency.

There is a vast difference between giving mercury in syphilis and between giving it intelligently and to produce the best results. There should never be an arbitrary standard. The dose of mercury for a given case should always be the maximum for that case. Too often mercurialization is not efficient.



### Conclusions

1. Syphilis is a curable disease, which is proven by new infections after cases have been aborted with salvarsan or with the mercury combined treatment.

2. Cases of syphilis which are not abortive may come to bear a close analogy to cases of tuberculosis, in that a stage of latency may be reached in which the patient is clinically well, but still harbors the spirochetes in the body.

3. The term clinical cure should be taken to mean the complete disappearance of all manifestations and the danger of transmitting the disease to others.

4. Every effort should be made to make a diagnosis at the earliest possible moment and attempt to abort the disease by intensive treatment.

5. The Wassermann should be made negative at the earliest possible moment and never again be allowed to become positive, if same can be prevented.

6. The patient should be educated so that he will co-operate with the physician in an effort to keep him under observation for a long period even in the complete absence of clinical signs.

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### *Symposium on Goitre*

Medical Paper, by J. P. SAWYER, Cleveland

Many individuals present symptoms and clinical signs of Basedow's disease without the latter being recognized. That is to say, there is such a clinical condition as an incomplete Basedow's disease, and the latter condition occurs with great frequency, despite the little mention commonly made of it. Some of the clinical symptoms occurring with an incomplete Basedow's are: palpitation of the heart with the least excitement, sweating to excess, trembling, and diahorrea. Mental symptoms accompanying may consist of sudden melancholia. Quite frequently some of these patients show on physical examination Marie's tremor, some of the eye signs accompanying exophthalmic goitre, and tremor. In practically every case of an incomplete Basedow's disease careful search will reveal some underlying emotional disturbance as the cause. Careful psychoanalysis is most urgently indicated in these cases, for the same reason, that we use anociassociation in surgery, namely, to prevent the development of further shock. In the same way, psychic treatment is of great potency in the treatment of these cases. Reassurance, mental calm, restful surroundings are among the measures which may be used in such cases with benefit. With the occurrence of a fresh shock, disastrous consequences to the progress of the case are observed.

Speaking of Basedow's disease in general, surgical treatment in a given case is indicated if medical treatment and rest, both physical and psychical, have failed. The most valuable treatment from a medical standpoint includes: hydrotherapy, electrotherapy, drugs, and sera. Hydrotherapy is unexcelled, for the reason that this form of treatment reaches the nerve centers most readily. Electrotherapy, both galvanic and high frequency, is valuable mainly for the reason that it stimulates exhausted nerve activity. Drugs are important for the control of symptomatic disturbances arising in the course of the case. Anti-thyroidine, although an expensive aid, when used often produces gratifying clinical results.

The speaker in closing emphasized particularly that the psychical part of the treatment in these cases is too often neglected. It is within the range of the internal medicine practitioner to diminish markedly the number of operations of the thyroid gland, by more careful treatment from a psychical standpoint. One of the chief reasons for the large number of patients seeking relief from the surgeon is that the medical treatment in too large a number of cases is a failure.

*Discussion, by R. DEXTER, Cleveland*

Pressure of the thyroid gland on the trachea or sympathetic ganglia in cases of Basedow's disease may produce cardiac symptoms long before the thyroid shows any enlargement. This is the condition sometimes spoken of as goitre heart. Two cases illustrating these conditions were cited. Some improvement was noted in each case with rest in bed. Both, however, improved very markedly following operation.

*Surgical Paper, by GEORGE W. CRILE, Cleveland*

Therapeutic rest, then operation, followed by more therapeutic rest, should be the fundamental slogan in the treatments of cases of Basedow's disease. Formerly it was the practice of the speaker to operate only on extreme, hopeless cases. Indeed, this was the general practice. Latterly, following extremely gratifying results on the extreme cases, it has become the practice to operate the less severe cases, and the results here too have been gratifying. The mortality rate for these operations has been progressively reduced with the march of time. It is the duty of the surgeon to the wet skeleton on the rock; the exophthalmic, with his rapid pulse and bulging eyes, facing almost instant dissolution, that these hard risks be undertaken.

In a severe case of Basedow's disease every organ in the body is modified from normal. Even profound chemical changes take place. Acidosis is impending. Therefore, in a case of Basedow's disease we must study the reserve alkalinity of the body, since such is of far greater importance than the acidity. The entire body is, so to speak, driven hard. The output of acid by-products by the body is enormously increased, and these same by-products eventually act upon the brain. The most important index to the degree of acidosis is the rapidity of the respirations in a given case. When there is a marked increase in rate it is significant of an increase in the output of the acid by-products. By the operative procedure in such a case we hope to bring the body to a neutral state, chemically speaking, so that the alkalinity of the body as a whole may be preserved. Our entire treatment, preoperative, operative and post-operative, will be to push alkalis and water in given case before operation, then decrease the amount of thyroid tissue by operation, then symptomatic post-operative treatment. The decrease in the amount of thyroid tissue is produced by first injecting boiling water; second, by ligating the thyroid arteries, and, thirdly, by performing lobectomy. The intervals between these various steps may be as long as five months. This slow, cautious method of treatment is employed for the reason that if operation is performed in a severe case off of the reel, and the gland removed, instant death will result. The reason for this is that such procedure produces too sudden a change, chemically. The one essential to the after-treatment of a thyroid case consists of prolonged rest for from six months to one year. This latter is rigidly insisted upon.

*Discussion, by ANDRE CROTTI, Columbus*

There is no medical treatment for Grave's disease. None of the medical procedures formerly employed, or those in vogue at present, are efficient. Perhaps the two medical procedures of real value are forced feeding and rest. These are pre-requisites in any case. There is no comparison between the results attained by the medical man and those obtained by the surgeon. Medical cases, that is, cases medically treated, show a higher mortality than cases treated surgically. The Basedow patient is often advised to take a prolonged rest and then have his operation. This is absolutely wrong. He should first have his operation, and get rid of the condition which is causing



trouble, and then take his prolonged rest. Basedow's disease is a medico-surgical disease, and the best results are obtained in a given case when there is team work between these two branches.

In about seventy-five per cent of the cases, coincident with the thyroid hyperplasia, there is found thymus hyperplasia. Thus, thyroidectomy should be combined with thymectomy.

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### *Dissociation Jaundice*

By C. F. HOOVER, Cleveland

Dissociation jaundice is the condition in which bile salts or bile pigments appear in urine, without the other being present. The condition was first discussed by French clinicians. At the present time, while recognizing that there is a dissociation possible, we believe that the same is a kidney dissociation.

Examination of the blood plasma in a case with jaundice, or in a case suspected of liver disease, often reveals the presence of bile pigment in abundance, although there may be no bile pigment in the urine of the patient, and although his skin may not be jaundiced. Thus, one might designate the presence of bile in the blood, without jaundice of the skin, or bile pigments in the urine, as a first degree jaundice.

In a series of patients suffering with pernicious anaemia, studied at Lakeside Hospital, it was found that the blood plasma in all cases contained bile pigments, or salts, or both. Whether the presence of bile pigments in the blood is due to increased hemolysis of red cells remains to be seen. Presence of bile salts in the blood is, however, evidence of disease of the liver parenchyma, for as far as is known, bile salts are formed nowhere but in the liver. Thus, in patients suffering with chronic plumbism, the blood plasma invariably contains bile salts, due to the hepatitis accompanying this condition.

Bile pigments appear in the plasma, and can easily be recognized by the experienced observer. Also the test with the nitric acid contact ring may be performed. As for testing the concentration of pigments in the blood plasma, the method has been used of taking two test tubes of the same calibre, putting in the one a column of distilled water one centimeter deep, and in the other a like amount of plasma, diluted to the point where the yellow tinge of the bile can just be distinguished from the sterile water in the other tube. The highest concentrations of bile pigments in the blood plasma are found in cases of obstructive jaundice.

It is interesting to note that in cases with bile pigments in the blood plasma, but without any pigments in the urine, it is impossible to dialyze such pigments through a collodion sac. With bile pigments in the plasma and urine, the pigments in the plasma can readily be dialysed through a collodion sac. The method of identifying bile salts is by dialysis through a collodion sac, and then testing with Pettenkofer's reaction test.

Examination of the blood plasma offers the best means of determining the presence and estimating the degree of jaundice in a given case. It is also important in the study of cases of obstructive jaundice and hepatitis, as well as in pernicious anaemia and a number of other conditions.

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### *Oration in Medicine—Certain Aspects of Pulmonary and Pleural Disease*

By FREDERICK T. LORD, Boston

In the diagnosis of diseased conditions of the lung, one must of necessity deal with signs and symptoms. Nothing, however, is of more importance in such diagnosis than the evolution of symptoms in a given case. Thus, for example, in both infarct of the lung and in lobar pneumonia, we have pain, chill, cough, sputum, while the existence of fever is typical of pneumonia, and not of infarct.

Relative to the physical signs in a pneumonia, the dull percussion note, the high-pitched bronchial breathing, the decreased tactile fremitus, are all merely the signs of a lung consolidation. In a pleurisy with effusion, cyst or a massive pneumonia the physical signs are dulled percussion note, absent or decreased high-pitched bronchial breathing, absent or diminished tactile fremitus. Thus, in the differentiation between a consolidation in the lung and fluid in the pleural cavity, we are differentiating between the physical signs given by an open bronchus and those given by a closed bronchus.

In the diagnosis of foreign body in the trachea and bronchi and foreign body in the esophagus, it is well to remember that the symptoms in the former condition come on early while those in the latter come on late. It is of paramount importance that at least one physician in every community be an expert in the use of the bronchoscope.

Statistics from various clinics of the country show a surprising percentage occurrence of bronchopneumonia following operation, striking an average of 2 per cent. The number of cases with suppuration in the lung following tonsil operations, and other operative procedures about the nose and mouth, are also surprisingly high. This points out the need for a more careful selection of cases for operation and a more careful pre-operative treatment.

That the clinical diagnosis of chronic bronchitis is extremely common and as equally unjustifiable, is the result of the study of a series of cases at Massachusetts General Hospital. Thus, subsequent postmortem examination in a number of cases tends to prove that the clinical condition of chronic bronchitis is largely non-existent. For example, to explain the existence of the bronchitis, causes were found in practically all cases, thus, cardiac conditions being the most common, next, pulmonary tuberculosis, next, local suppurative processes in the lung, other than tuberculosis, and, finally, malignant disease and syphilis. Not a single case of chronic bronchitis, uncomplicated, was found by the postmortem examinations. The cardiac group, according to their histories, had dyspnoea preceding their bronchitis, the tuberculous group, cough.

Asthma, according to recent experimental work reported from Boston, is probably an anaphylaxis. As to the means by which the anaphylactic agent enters the body, whether via air, food, or as an infection, is not yet known. The speaker sounded a note of warning against the giving of diphtheria antitoxin to asthmatic patients, as in his series five deaths were, in his opinion, caused by its use. He recommended the use of the Shick test, first, in such cases.

Hemoptysis may be divided into two groups, viz., that coming out of a clear sky and that coming out of a cloudy sky. In the first group of cases the underlying cause in all but one case studied was pulmonary tuberculosis. The causes in the second group varied, being pulmonary tuberculosis, passive congestion, infarcts, suppurative aneurism, ulcerative lues and malignancy. It is extremely likely that if the blood, following a hemorrhage into the lung, is allowed to remain in its original position, it will tend to light up a bronchopneumonia. For this reason the use of morphine in hemoptysis should be discountenanced. Hemorrhage from the lung causes death only in extremely rare cases. It is far better, therefore, to allow the patient to cough the blood up than allow it to remain. It is interesting to remember that hemoptysis in the case of hemophiliacs is extremely rare.

As is commonly known, the pneumococcus is the causative organism of pneumonia. However, it has been shown without question that the pneumococcus occurring in the mouth is not the same as the pneumococcus causing pneumonia. At the Rockefeller Institute an exhaustive study has been made of the pneumococcus. There have been differentiated four separate strains. If the type of pneumococcus can be differentiated in a given case, serum may be given with beneficial results. Many points



about pneumonia still remain a mystery. Thus we see cyanosis, without any evidence of a failing circulation and without any evidence of a deficient ventilation of the lungs. This is probably due to the formation of methemoglobin in the blood. Also, we have no adequate explanation of forces in the blood. Why does death so frequently occur in pneumonia, without evidence of a failing circulation or of a failing vasomotor system? The possibility of the development of an empyema, or in children of otitis media, should not be overlooked, following pneumonia, and should be discovered as soon as it occurs.

Relative to pleurisy, uncomplicated, it is to be remembered that practically all such cases are tuberculous in origin. It should be borne in mind that the chest should never be opened in tuberculous pleurisy. There should be a more universal, careful examination of the pleural fluid in cases of pleurisy.

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### *Oration in Surgery—Gall Bladder Infections*

By JOHN H. GIBBON, Philadelphia

The surgeon may be considered the author of intra-abdominal pathology. Only the surgeon sees the intra-abdominal pathology; he must be skilled in interpreting it, and it is to be remembered that the living pathology viewed by the surgeon differs widely from the post-mortem pathology with which the pathologist deals. Were the physician to become more intimately acquainted with operative pathology it would tend toward closer and more intimate co-operation between physician and surgeon.

In interpreting gall bladder infections, we must look upon the gall bladder as an out-pouching of the intestine, even as the appendix. As a matter of fact, both are subject to the same type of infections. First in number are the colon infections, then follow pneumococcus, streptococcus and staphylococcus. It may be taken as a law that the formation of gall stones always follows a chronic infection. With the infection the condition of empyema of the gall bladder develops, there is swelling of the mucous membrane, the flow of bile is slowed. All stones form first in the gall bladder, going thence to the various points where they find lodgment. When stones are once formed a number of results may ensue. The stone may rupture into the liver or intestine, it may lead to the formation of stricture of the gall bladder, or various deformities due to adhesions. A distended gall bladder with stone in the common duct is not the rule. With stone in the cystic duct, however, it is common.

The common duct stone is most commonly found at the ampulla of Vater. Infection, resulting from damming back of the flow of bile by stone in the common duct very readily travels up the pancreatic duct, causing all grades of pancreatitis. Carcinoma of the gall bladder may follow the irritation of the organ by stones. The symptoms with gall bladder disease are, disturbed digestion, gas and fullness in the stomach after meals, pain and tenderness, the latter most commonly in the mid line. Often there is colic at night, frequently relieved by vomiting.

Relative to treatment, when a stone is found in the ampulla of Vater and is not readily removed otherwise, it should be attacked through the duodenum. When in doubt in draining a gall bladder a large calibre tube should be used. Also after inserting drainage tube it is well to syringe same out carefully, as thereby several stones may be removed which otherwise would not be secured.

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## THE TREATMENT OF INFANTILE PARALYSIS

The following excellent statement, concerning the treatment of infantile paralysis, was prepared for the New York State Department of Health for publication in "Health News," and is here reproduced by permission.

The treatment outlined is that adopted by most of the orthopedic surgeons at the present time, and is practically that employed by the physicians and surgeons now caring for the patients in the Health Department's hospitals:

### The Treatment of Infantile Paralysis (With Especial Reference to the Earlier Stages)

ROBERT W. LOVETT, M. D.

*Professor of Orthopedic Surgery, Harvard University, and Surgeon to the Children's Hospital, Boston, Mass.*

Infantile paralysis, or acute poliomyelitis, is a general infection characterized especially by its attack on the cerebro-spinal axis. The pathological condition is essentially a hemorrhagic myelitis accompanied by a mild meningitis, both of which are often more widely distributed than the clinical symptoms would seem to indicate.

The changes in the cord consist of hemorrhages for the most part punctate most marked in the anterior part of the gray matter and of a very extensive perivascular infiltration. The latter process causes a narrowing of the lumen of many of the terminal arteries supplying the motor cells, so that anemic changes even to the point of necrosis may occur in them. In addition to this, the posterior root ganglia are involved. From this stage the process in cases which do not die consists in an absorption of the infiltration about the vessels, allowing the blood to flow through them to the anemic cells, which resume their function unless too severely damaged, and absorption of hemorrhage. This is the period of so-called "Spontaneous improvement" supervening directly upon the acute process.

For purposes of treatment, the disease may be divided into three stages: (a) The **acute stage** beginning with the acute attack and ending with the disappearance of the tenderness (matter generally of from four weeks to three months); (b) The **convalescent stage** from the disappearance of the tenderness until the disease has become practically stationary (a matter of about two years); (c) The **chronic stage**, which begins about two years from the onset.

#### Acute Stage

From the pathology it may be seen that the physiological requirement of this stage is rest, in order that nature may be given a chance to repair the damage so far as possible by absorption. It is not reasonable during this time to excite the peripheral ends of hemorrhagic and anemic nerve centers by massage, electricity and attempted movements. The tenderness must be accepted as evidence of an active process still going on in the cord and so long as it exists the patient should be **let alone**. Massage at this time may cause great increase of pain and tenderness and may seriously delay recovery, and there is no evidence whatever to show that the use of electricity at this stage is of any value.

During this stage the patient should be kept quiet. Joints will not ankylose, hopeless muscular atrophy will not occur, and by this proceeding the damaged cord will have the best chance to repair, and repair to the highest degree is desirable. One of our chief gains of late has been the avoidance of meddlesome and useless early therapeutic measures. There is evidence that the use of hexamethylenamin in monkeys diminishes in them the risk of infection somewhat, but there is nothing to show that it has any effect after infection has occurred, but as the drug in moderation is harmless, it is extensively used at this stage and may be of value. There



is no serum or drug or proceeding that is known to avert the infection or to limit the paralysis, although Netter of Paris has administered the blood serum of recovered patients to those in the acute stage in a small series of cases, but the method is wholly experimental. The use of strychnine and ergot is not to be advised. **Deformities** should at this stage be carefully prevented. The feet should be kept at right angles to the legs, to avoid the most common deformity, "dropped foot." The knees should be kept extended unless this causes great pain. Lateral curvature of the spine should be looked for, and, if it is present, attitudes increasing it should be avoided. These deformities may begin in the first weeks after the onset, and are largely preventable, and if they are allowed to occur, constitute a great obstacle in the later treatment.

When the tenderness has diminished, it is desirable to place the patient in a warm saline bath into which he may be lowered on a sheet once a day, and in which he may be able to move his limbs without pain. This is not desirable in the first days of the disease.

The treatment of this stage may be summarized as consisting of rest and the prevention of deformities.

### The Convalescent Stage

With the disappearance of the tenderness, the acute process in the cord may be assumed to have reached a stage when therapeutic measures may be begun, but probably in no case should they be undertaken in less than four to six weeks from the onset. Of late much has been said as to the advisability of keeping such convalescents in bed for an indefinite time, and there is no question that most cases of this disease are allowed to overdo to their own detriment. But prolonged recumbency for children is unnatural and undesirable, physiologically and mentally. Moreover, it has been too much the custom to allow such children to sit and lie around until they have acquired flexion deformities of the hips, knees and ankles, and the best practice at present consists in getting these children into the upright position early in the convalescent stage.

The upright position is desirable not only because it antagonizes the evils of the permanent sitting position, but because the effort to balance on the feet instructively excites to effort a large number of muscles not otherwise to be reached, and is a valuable form of muscle training.

If the patient can stand and walk without leg braces, so much the better. If such apparatus is needed to permit ambulatory activity it should be used, but only in walking, and in early cases, never continuously. The most commonly required form of apparatus is the Thomas caliper knee splint, which holds the legs extended and prevents the foot from dropping. Crutches may or may not be required. If gastrocnemius paralysis is present, high heels should be continuously worn. If abdominal weakness is present (a condition most often overlooked), a supporting abdominal corset should be worn continuously and scoliosis demands the same treatment from the outset.

A patient who has been long in bed when first put on his feet in braces is often unable to balance even if he has the requisite muscular strength, and the cultivation of his sense of equilibrium must be taken up separately. A good general rule with regard to the use of apparatus is that it should be used when the patient cannot stand without it or if, in standing, a position of deformity is assumed. Deformity leads to stretching of soft parts, which is always detrimental, and if persisted in, to permanent bony changes.

**Fatigue** is always detrimental and a source of danger at this stage. Muscles are often more weakened than totally paralyzed in this disease (in the proportion of about 9 partial to 7 total paralysis in the Vermont figures), and the danger of overusing such partly paralyzed muscles even by mild activity is very great and retards recovery, and if persisted in does permanent damage. The worst advice that can be given to a patient in

the light of our modern knowledge is to use his muscles as much as he can. Patients in the convalescent stage should be most carefully guarded in the matter of too much walking.

There are four therapeutic measures to be considered at this stage: (1) Massage, (2) Electricity, (3) Heat, (4) Muscle Training.

(1) **Massage** empties mechanically the veins and lymphatics, it apparently helps to preserve the condition of the muscles, and it stimulates the flow of blood to the limb and nothing more, so that too much must not be expected of it. It does not promote the transmission of impulses from brain to muscle, and its action seems wholly local. Given for too long a period, or roughly, it does harm and fatigues the muscles.

(2) **Electricity.** The use of Faradic electricity gives a mild form of muscular exercise as will cause muscles to contract which will not do so voluntarily, and apparently does nothing more, and Galvanic electricity and the newer currents are supposed in some mysterious way to do good, but in experience of many years with and without electricity used in all forms and under many conditions of control, the writer has never been able to satisfy himself that it was of any use whatever in any given case. There is no possible objection to its use if strong currents are not used, provided the other measures of proved usefulness are also employed. But electricity has done an indefinite amount of harm in this disease because it has deluded the parents, and often the physician, into thinking that the patient was being adequately treated by that alone, while serious deformities were developing and valuable time being lost.

(3) **Heat** is of value in promoting circulation and in raising the temperature of the limb to a point where muscular action is better performed. It also probably adds to the efficiency of massage by bringing the blood to the surface and should precede rather than follow the rubbing.

(4) **Muscle Training** is doubtless the most valuable and reliable of these measures. It consists in an attempt to drive an impulse from the brain to the affected muscle by a new route. The bundles of motor centers are connected with each other and with the muscles by most intricate connections, and in the partial destruction of such centers, which is more common than their total destruction (as shown by the predominance of partial paralysis), it is obviously reasonable to attempt to find and cultivate a new route for an impulse by calling for the performance of a motion and aiding the performance of that motion by the hand. With subsequent attempts the voluntary control is likely to increase and in the opinion of the writer we have in carefully directed muscle training at this stage the most valuable part of our therapeutic equipment.

In Vermont, in a period of three months, a quantitative examination of the muscles (Lovett & Martin, *American Journal of Orthopedic Surgery*, July, 1916) showed that in cases treated by muscle training the expectation of improvement was as follows: Under treatment by an expert, 6 to 1; under home muscle training under supervision, 3.5 to 1; home training without supervision, 2.8 to 1.

**Deformity** in this stage is to be removed as it occurs. This can be done by stretching with or without anasthesia, tenotomy, myotomy, fasciotomy. It must be remembered that it is easier to prevent than to correct deformity. **When fixed deformity is present, it must be removed before undertaking mechanical or operative treatment.**

### The Chronic Stage

This begins in about two years from the onset, and it is in this stage that the question arises of performing operations to improve function or to increase stability of the paralyzed joint. In the first class are to be mentioned tendon transplantation and nerve transplantation, and in the second the artificial ankylosis of joints (arthrodesis), silk ligaments to support dropped feet, the removal of the astragalus (astragalectomy) and similar operations.



Surgeons of experience are agreed in all parts of the world that these serious operations are not to be undertaken until at least two years after the onset of the paralysis. But in this stage probably the majority of cases will still be non-operative because the distribution and extent of the paralysis is too often of such a character as to make operative interference unlikely to be of much value. In such cases the same general principles of support by apparatus will remain much as they were in the preceding stage, but as one gets further away from the acute attack the prospect of muscular gain becomes less good, a consideration which emphasizes the importance of seeing that the care of these cases in the early stages is as efficient as it can be made.—*Weekly Bulletin*, New York City Department of Health.

**Medical Education.**—G. Wilson, Baltimore (*Journal A. M. A.*, April 8, 1916), after noticing the raising of the standards within the past two decades and admitting that the American people are receiving vastly better medical attention than even ten years ago, says already the cry for a doctor is coming from rural communities and that they are asking for a good doctor, if possible, but in any case a doctor. While the report of the Carnegie Foundation on medical education in the United States has done an immense amount of good, he thinks that it has held largely the position of an advocate rather than of a judge, and has not considered sufficiently certain important factors. One of these is the difference in the morbidity rates in certain districts from those abroad and the bearing of the per capita wealth of the community with the ratio of physicians to population. His personal opinion as regards medical education has been that there is need in this country of two classes of medical schools, the one like the Johns Hopkins, in which the requirements can hardly be set too high, and the other and larger class for the training of general practitioners. The first type of school should have a limited class of students, trained not only in clinical and laboratory medicine, but also in the methods of research. They would become teachers, research workers and specialists, practitioners and consultants in the larger towns and cities. To require this of all men who desire to practice medicine would, Wilson thinks, undoubtedly raise the standard but be no more satisfactory than to require that all locomotive engineers be graduates in mechanical engineering from an approved college. The second class should demand a good education in the essentials, namely, the requirements demanded for admission to most colleges and including the essential fundamental scientific branches underlying medicine, such as chemistry, physics and biology. He would not consider an ancient or modern language essential, though it would be a help. He questions the general accuracy of the statement of the Carnegie Foundation that graduates of the Johns Hopkins Medical School have settled to any extent in small communities. From a study of statistics he finds that they are extremely rare in those of Maryland, where the other school in Baltimore has 350 practitioners from its graduates. In sixteen years, from 1897 to 1913 inclusive, the Johns Hopkins Medical School has graduated 965 men, of whom only four are practicing medicine in rural Maryland. He gives tables supporting the statements and trusts that the progress in regulating medical education will be done thoughtfully and quotes the words of President Prichett of the Carnegie Foundation, "Let us not forget in our zeal for research that the principal function of the medical school is the training of medical practitioners."

## BOOK REVIEWS

**Rules for Recovery from Pulmonary Tuberculosis.** A Layman's Handbook of Treatment by Lawrason Brown, M. D. Second Edition, Thoroughly Revised. Lea & Febriger, Philadelphia and New York, 1916. Price, \$1.25.

This book varies from the ordinary does and don'ts for the tuberculous patient in its recognition of the fact that the average patient is not a child, but an adult who is destined to have an abundance of time to consider the whys and wherefores of the advice given. Accordingly, the prevalence of the disease, the germ which is its cause, the method by which it is contracted, the age at which contracted, the difference between clinical and non-clinical or undeveloped tuberculosis are, for the layman, adequately covered. These considerations give point and reasonableness to the directions for the prevention and cure of the disease which follow.

We also find at the outset that a definite effort is made to impress upon the victim of this disease the length of time necessary to complete the cure; that careful living for three or four years, after a preliminary stage which gets the patient upon the road to recovery, is a necessity. "Thirty-eight per cent of all patients treated at the Trudeau Sanatorium have died, and at least 90 per cent of them from tuberculosis." Doctor Brown believes that much of this death rate is unnecessary, and results from a failure to appreciate the length of time needed to complete the cure.

The frequent failure of physicians to insist upon rest in the treatment of tuberculosis, particularly in the early case for whom rest might give the greatest benefit, makes it seem advisable to devote more attention to his chapter on this subject than will be the case with the remainder of the book. "There are three great medicines in the treatment of tuberculosis; medicines which when rightly used are far superior to those found in any pharmacopoeia: Rest, food and fresh air. Formerly this order of their importance was reversed and the value of fresh air and food so emphasized that rest was placed last, hyphenated often to exercise and modified by 'properly regulated.' Thus the great profit that accrues from rest at the beginning of treatment was often slurred over or, indeed, entirely escaped attention. The value of rest at the onset of treatment cannot be overemphasized and for that reason is discussed first, because to give a patient with pulmonary tuberculosis and fever good food and insufficient rest is like attempting to fill with water a barrel full of holes."

"While the writer is firmly convinced that a preliminary rest in bed will more quickly and more surely wall off the disease and so arrest it, he also recognizes that the vast majority of patients who do arrest their disease do so by remaining in their 'cure-chairs' until put upon exercise. The object of this chapter, however, is not to tell how most patients who arrest their disease do so, but to guide patients along lines that will bring about the best results in the greatest number." Such advice as this is certainly as valuable to the physician as to the layman and if generally understood in the profession would eventually result in great saving of life.

As regards diet, also, general principles are given, followed by such specific directions as will make possible the regaining of lost weight. A general mixed diet is advised with the addition of smaller amounts of eggs (either cooked or raw) and of milk than are usually recommended. The danger of inviting a serious digestive upset, resulting in a loss greater and more serious than the previous gain as a result of the indiscriminate use of the stuffing process, is pointed out.

As has been stated by others, the problem of the out-door-life is not that of enduring discomfort but of remaining comfortable, and the chapters "on fresh air," "on sitting out," and "sleeping out" give just those directions which make it possible for patients to derive benefit from fresh air.



In his insistence upon the value of rest in the treatment of tuberculosis, in his consideration of the contraindications for exercise and its dangers when contraindicated, in his advice concerning diet, in his clear and sensible directions for the out-door-life, Doctor Brown has given us a booklet of great value to the physician as well as to the patient. It is printed in clear type on good paper and attractively bound. Notwithstanding the rich return which it may be expected to give either to the layman for whom it was intended or to the physician who wishes to guide wisely the fortunes of a tuberculous patient, it seems unfortunate that the publishers should have seen fit to place so high a price upon a duodecimo of only 184 pages. The book may be found upon the shelves of the Cleveland Medical Library and deserves careful perusal.

G. W. M.

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**A Text-book of Pathology.** By W. G. MacCallum, Professor of Pathology in the College of Physicians and Surgeons, Columbia University, New York. 1048 pages, 575 illustrations. W. B. Saunders Company, Philadelphia and London, 1916. Price, \$7.50.

As the author indicated in the preface, this book represents the course in pathology given at the College of Physicians and Surgeons and is not intended as a book of reference. The usual division of the subject into general and systemic pathology has not been followed and a complete description of all the diseases of each organ has not been attempted. Nevertheless all the important lesions are adequately considered. The subject-matter is arranged so that after a brief discussion of the general principles of pathology the various topics are grouped into chapters which deal with "various types of injury and their immediate and remote effects."

Quite wisely, certain sections usually included in books on pathology have been omitted—heredity in its relation to disease, biology of bacteria and other parasites, malformations and certain nervous diseases. The author states that these subjects, as well as resistance and immunity, are treated in special works usually of easy access. This can be interpreted as illustrating the growth of these subjects into more or less independent specialties, placing them beyond the scope of pathology as it is now taught in practically all the medical schools of this country. Hence books on these specialties usually form part of the students' own libraries.

"A constant effort has been made to speak of the disturbances of function and chemical interchange in the course of disease, so far as that was possible, and even to describe symptoms. If this makes the book seem like a treatise on clinical medicine, it is only because pathology and clinical medicine are, after all, the same thing viewed from slightly different angles."

It can be seen that the principal points of novelty in the book are the arrangement of the subject-matter on the basis of etiology, the omission of certain topics which are treated in special books and the inclusion of a consideration of disturbances of function as a necessary corollary of morphological alterations.

MacCallum brings to this book a large experience in pathology from all sides, that of morphology, that of physiology, that of experimental research, that of teaching, that of clinical-pathological correlation. Hence the material of the book is highly authoritative, and at the same time exhibits no dogmatism. The style throughout is clear, although occasionally lacking in scientific conciseness and savoring of colloquialism. This fault is perhaps that of the enthusiastic teacher, yet it seems to the reviewer to offer in its occasional appearance a poor model for students. The illustrations are well selected and beautifully executed: although frequently somewhat diagrammatic they always illuminate the text and will be of undoubted value to the reader and student of the book. Appended to each chapter is a list of references to important papers and

books on the subject-matter of the chapter. This list would be of much greater value if complete titles were given and the manner of referring to year, volume and page made uniform. The selection of references is good, although the personal opinion of each individual pathologist would suggest changes, largely, however, by way of addition to the lists.

Mechanically the book is excellent and the index instead of being a useless appendage distinctly increases the value of the work as a whole.

The book can be highly recommended to physicians who wish to have a readable and authoritative presentation of pathology in its more modern aspects. To students the book offers a valuable one-volume text for their work in pathological histology and anatomy and a serviceable guide for their studies of pathological physiology and chemistry. H. T. K.

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**Post-mortem Examinations.** By William S. Wadsworth, M.D., Coroner's Physician of Philadelphia. With 304 Original Illustrations. W. B. Saunders Company, Philadelphia and London, 1915. Price, cloth, \$6.00; half morocco, \$7.50 net.

The best feature of this book is the abundance of illustrations which show many interesting conditions. The text has too much that does not belong to the book of the scope of "Post-mortem Examinations," and too little of what should be there. It is certainly no book for a beginner, for but few direct specific instructions are given; it does not tell much to a more advanced worker, because the sporadic wanderings into the realm of physiology, pathology, bio-chemistry, etc., are too incomplete and devoid of unity, which alone makes a continuous scientific narrative. It is a book for those who would like to learn a little about everything from reading but one book.

The author seems to have been desirous of breaking away from the "old-fashioned" books on the subject, and it seems as if he had unfortunately succeeded too well, having gone too far away for his book to be what the masterpiece of all "post-mortem" books, Orth's classical "Pathologs—Anatomische Diagnostik," is—a combination of instructions as to how to make an autopsy properly and how to interpret the results correctly.

Some of the instructions given should have been omitted, such, e. g., as the one about using sharp angles and notches for "subsequent replacement and reconstruction"—and this after the great master of pathology has taught us that "One clean cut, though wrong, is better than many little ones, even though they be correct!" The author modestly admits that his is a "most valuable principle," although he acknowledges that he "had been subjected to some unthinking criticism." This is what the French call "excusez de peu!" (I have known fishermen who advised making notches on the boat opposite the places where fishing was good, so as to be able to find these places on subsequent trips.) The most serious objection to the book is that it tries to cover too much ground and fails, as do all books in which the author wants to give vent to all of his pent-up emotions and imprisoned ideas without due regard to the scope of his work, the result invariably being that instead of "multum in parvo" we receive "parvum in multo." A. A. E.

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**Transactions of the College of Physicians of Philadelphia. Third Series, Vol. 37, 1915.**

This volume is printed for the College and contains the papers read before the College during the year 1915. It also contains a list of the fellows and associate fellows, the annual address of the president and certain transactions of the College. There appear twenty-three papers on subjects medical, surgical, and gynecological. There is an interesting discussion of gastric ulcer by Doctor John B. Deaver. Doctor Alfred Reginald Allen presents the "Recent Progress in the Physiology of the



Pituitary Body." Shoemaker reports a case of "Sarcomatous Degeneration of a Fibroid of the Uterus Five Years After X-ray Treatment for Pressure and Hemorrhage." There appears an interesting and able paper by Professor J. M. Anders on "Certain Syphilitic Affections of the Heart and Aorta." Mesaortitis, aneurism, aortic insufficiency, and angina pectoris are considered. The importance of lues as a factor in the etiology of myocarditis as well as the short time following infection required for involvement of the myocardium are emphasized. There is an interesting discussion of this paper by Doctor Geo. W. Norris and Doctor James Tyson.

The College is to be congratulated both for its activity and for its ability to produce the handsome volume, summarizing a year's work, which it now presents to the profession.  
H. C. K.

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**Modern Medicine and Some Modern Remedies.** Practical Notes for the General Practitioner. By Thomas Bodley Scott, Author of "The Road to a Healthy Old Age." With a Preface by Sir Lauder Brunton, Bart., F. R. S. Paul B. Hoeber, New York, 1916. Price, \$1.50 net.

From the standpoint of the general practitioner Thomas Bodley Scott has written a very readable and valuable volume on disorders of the heart, arteriosclerosis, chronic bronchitis, and bronchial asthma. He speaks from the ripe experience of a busy physician who has kept up with the procession. He combines the philosophy of the old school with the precise methods of the new. Sir Lauder Brunton has written in the critical preface: "The ideal physician is the man who combines theoretical knowledge, practical experience and *savoir-faire*. . . . It is most unfortunate that such men rarely write down the results of their experience, for they are too much engaged in their daily work while they are in practice, and instead of retiring early so as to have a few years leisure before they die, they are apt to work to the very last and die in harness. It is a most welcome occurrence when a man fully qualified to do so writes from the ripe experience of his life so as to help his fellow-workers, both general practitioners and consultants, who one and all may learn from him."

H. S. F.

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**Aseptic Surgical Technique.** With Especial Reference to Gynecological Operations, together with Notes on the Technique Employed in Certain Supplementary Procedures. By Hunter Robb, M. D., Formerly Professor of Gynecology, Western Reserve University, and Gynecologist-in-Chief to the Lakeside Hospital, Cleveland, Ohio; Fellow of the American Gynecological Society and of the American College of Surgeons; etc. Forty-four Text Figures and Twenty-four Plates. Fifth Edition, Revised. J. B. Lippincott Company, Philadelphia and London. Price, \$2.00 net.

This is a thoroughly revised edition of the work first brought out by Doctor Robb in 1894. In the years that have elapsed since that first edition, the principles of aseptic technique have become more definitely formulated and their importance more widely recognized. Even yet, however, it is sad to think how far below Doctor Robb's standards is the technique, or lack of it, in many parts of the United States, even in many hospitals. We wish a copy of this book might reach every man who is attempting to do surgical work with little or no good hospital training behind him.

Several additions and changes have been introduced into the earlier editions. Doctor Robb takes occasion to criticise the newer methods of skin sterilization by the use of iodine (p. 66). Experiments made upon dogs are cited. The most extensive change is the addition of a chapter upon the diseases and pathology of the endometrium. This material occupies some twenty-five pages and is illustrated with plates taken

from the works of Cullen and Kelly (*not* Kelley, as spelled under the figure facing p. 232). The press work and appearance of the book is excellent except in the printing of a picture of an operating table with Doctor Robb's warming electric lights. This figure, on page 151, is so poorly reproduced that the lights cannot be made out. J. T. S., Jr.

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**The Medical Clinics of Chicago.** Vol. 1, No. 5, March, 1916.

After reading several numbers of this publication, the writer sees no reason for changing his attitude as expressed in reviewing the first number. It fills a place. For the man who is reading several of the better monthly publications, it will offer little that is new. Indeed, some of the matter appears elementary. For the physician who, after a day's work, is too weary to read and digest the more scientific papers, this "Clinics" offers something which reads as easy as the *Saturday Evening Post* and from which he is compelled to absorb much that is worth while.

The issue under present consideration is the poorest that has appeared. The clinics of Doctor Robert B. Preble are from the bedside and they are absolutely unreadable. They consist of a series of questions by Doctor Preble which get you nowhere, and of visiting doctors who seem to be suffering from stage-fright or cerebral-stenosis. The writer tried twice to finish his clinic on "Acute Nephritis Following Acute Tonsillitis," but it was too severe a punishment.

On the other hand, Doctor Charles Spencer Williamson presents some good cases and presents them in readable English. He reviews five cases, among which we might mention one of "Bronchiectasis with Secondary Cardiac Decompensation," one of Acromegaly, and "An Acute Generalized Tubercular Adenitis (Bovine Type) Simulating the Abdominal Type of Hodgkin's Disease."

At Mercy Hospital, Doctor Charles Louis Mix presents three good cases. Under the title of "A Case of Mitral Insufficiency and Stenosis, with Emboli to the Brain" he takes the opportunity to present some good material on endocarditis and myocarditis in general. H. C. K.

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**The International Medical Annual.** A Year Book of Treatment and Practitioner's Index. 1916. Thirty-fourth Year. William Wood & Company, New York. Price, \$4.00 net.

The volume for 1916 has been admirably edited and contains the pith of the literature of the past year in all the fields of medicine. This volume is an excellent means of "keeping up with the procession." With the great mass of literature constantly overwhelming us, it is a relief to grasp a single volume which brings us the essentials of most of the recent advances. The volume is heartily endorsed. H. S. F.

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**The Medical Clinics of Chicago.** Vol. 1, No. 6, May, 1916.

This number is above the average. Doctor Walter Hamburger presents his experiences with the Allen treatment of diabetes. Doctor J. C. Friedman discusses "Chronic Pain in the Right Iliac Fossa." Doctor Frederick Tice presents a case of pleurisy with effusion with the indications for thoracentesis, a case of "Acute Pneumonia Added to Pulmonary Tuberculosis," and a case of "Acute Pneumonic Phthisis." We may also mention a case of Hookworm Disease with suggestions as to treatment by Doctor Mix. Doctor Isaac A. Abt writes on "Rachitis." His article is masterly. Every one of his contributions to the clinics on diseases of children has been of the highest order. Doctor Preble spoils his cases by a lot of questions which fail to bring out any points bearing on the analysis of the case in hand. Doctor Ralph C. Hamill's article on "Traumatic Neurosis" is well worth reading. H. C. K.



**Bacteriology for Nurses.** By Harry W. Carey, A. B., M. D., former Assistant Bacteriologist, Bender Hygienic Laboratory, Albany, N. Y., Associate in Medicine, Samaritan Hospital, and City Bacteriologist, Troy, N. Y. F. A. Davis Company, Philadelphia and London, 1915. Price, \$1.00 net.

This is a very good little book and it answers its purpose admirably. While it is, of necessity, brief, yet the text is accurate, all salient features of various bacteria, their characteristics and activity are referred to in a language that is plain and concise. It is very complete in its scope, as it describes not only the bacteria, but protozoa and fungi as well. In short, it is an accurate, brief representation of today's knowledge of bacteriology, well arranged for those who must learn but the very essentials of this branch of science.

A. A. E.

**The Medical Clinics of Chicago.** Vol. 2, No. 1, July, 1916.

The Clinics for July is one of the best numbers to appear. The first article is a discussion of the use of digitalis by Doctor Arthur R. Edwards. Doctor Edwards has written well on the uses of digitalis. Diabetes receives considerable attention in this number. Doctor Frederic Tice writes on "Some Cases of Diabetes Mellitus and Complications of Diabetes Mellitus with Acidosis." Doctor Solomon Strouse on "Diabetes in Surgery, Diabetes in Pregnancy, and the Treatment of Diabetic Acidosis." They are all good. Doctor Strouse gives modern, scientific treatment and sound advice in his discussion of diabetes as related to surgery and pregnancy. He cites some interesting cases. Doctor Abt, as usual, has something good. This month it is "Feeding the Normal Baby—Breast Feeding." Doctor Hamill has some good neurological cases. Doctor Charles Spencer Williamson presents six cases, all entirely different and all worth reading.

We note with a spirit of thanksgiving that Doctor Preble is having a vacation.

H. C. K.

### ACKNOWLEDGMENTS

**The International Medical Annual.** A Year Book of Treatment and Practitioners' Index. 1916. Thirty-fourth Year. William Wood & Company, New York. Price, \$4.00 net.

**A Text-Book of Pathology.** By W. G. MacCallum, Professor of Pathology in the College of Physicians and Surgeons, Columbia University, New York. With 575 illustrations, chiefly from drawings by Alfred Feinberg. W. B. Saunders Company, Philadelphia and London, 1916. Price, \$7.50.

**The Medical Clinics of Chicago.** Volume 2, Number 1, July, 1916. Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London. Six numbers a year. Price per year, \$8.00.

**The Practical Medicine Series, Volume IV, Gynecology.** Edited by Emilius Dudley, A. M., M. D., and Herbert M. Stowe, M. D. Series 1916. The Year Book Publishers, Chicago. Price, \$1.35.

**The Practical Medicine Series, Volume V, Pediatrics.** Edited by Isaac A. Abt, M. D., with the collaboration of A. Levinson, M. D., and **Orthopedic Surgery.** Edited by John Didlon, A. M., M. D., with the collaboration of Charles A. Parker, M. D. Series 1916. The Year Book Publishers, Chicago.

**Hospital of The Protestant Episcopal Church in Philadelphia.** Medical and Surgical Reports of the Episcopal Hospital. Volume III. Press of William J. Dornan, Philadelphia, 1915.

**The Institution Quarterly.** An Official Organ of the Public Charity Service of Illinois. Publishers: The State Board of Administration; The State Charities Commission; The State Psychopathic Institute.

## MEDICAL NEWS

**Work In Diabetes.**—Distinct additions to the knowledge of diabetes have been made through the work of Doctor H. Rawle Geyelin under the special George Blumenthal scholarship of \$900 in the School of Medicine of Columbia University. During his incumbency of this scholarship in the last three years he has been doing research work along clinical lines, particularly in diabetes, and has published four valuable articles on metabolic diseases, one in conjunction with Doctor Dubois. Five beds have been set aside for this special study. Special attendants and a special trained nurse take care of these patients, and a branch of the kitchen department has been set aside for the preparation of their food. The work in diabetes has developed under the Blumenthal fund into a special clinic and the patients at the Vanderbilt Clinic are also used in this connection, so that the disease has had the most thorough and systematic study. In order to give Doctor Geyelin academic standing he has received an academic appointment as assistant, and, at his earnest request, has been allowed to give instruction in the special work he is carrying on, as it is believed at the college that research in clinical medicine is stimulated and kept at a high grade of efficiency only by associating with it a certain amount of teaching, which places the instructor under the stress of meeting the eager inquisitiveness of the advanced and earnest undergraduates.

In addition to this scholarship, there have been in the last two years, paid from the same fund, three undergraduate scholarships of \$250 each, and there will be four in the coming scholastic year. The students who receive them are all high-stand men, and work as special assistants in the laboratories. These scholarships are much sought after and aid materially in the research work of the department. Students holding them in the third and fourth years are also used as assistants in laboratory teaching, and this association with the students of the lower classes is much appreciated by the incumbents. The holders of the scholarships in 1916-17 are Lorrin Andrews Shepard, physiology; Thomas Trovillo Sheppard, physiology; Adolf Frederick Herrmann, anatomy, and Lee Hollister Ferguson, neurology.

**A Prize of 50,000 Francs for the Best Mechanical Hand-Apparatus.**—A generous donor who wishes to remain anonymous has offered to the Societe Nationale de Chirurgie, a prize of 50 000 fr. to be handed over to "the maker of the mechanical apparatus supplying the place of the hand best. All competitors must belong to allied or neutral nations. They are to present to the Society mutilated men who have been using their apparatus for at least six months. The Societe de Chirurgie will experiment each apparatus on mutilated men for the length of time it thinks fit. The apparatus rewarded is to remain the property of the inventor. The competition will be closed two years after the end of the war."

MM. Faure, Kirmisson, Quenu, Rieffel and Rochard, who make up the committee elected by the Societe de Chirurgie, inform the public of the condition of the competition as stated by the donor and beg any person wishing to compete to send his memoir and apparatus to M. le Secretaire General de la Societe Nationale de Chirurgie, à Paris, 12, rue de Seine—*Fondée en 1843.—Reconnue d'utilité en 1859.*

**The Seventh Annual Meeting of the American Association for Study and Prevention of Infant Mortality** will be held in Milwaukee, October 19-21, 1916. The subjects to be discussed include:

Governmental activities—Federal, State and Municipal—in relation to infant welfare.

Care available for mothers and babies in rural communities.

Standards for infant welfare nursing.

Morbidity and mortality in infancy from measles and pertussis.

Public school education for the prevention of infant mortality.

Vital and Social Statistics.



Doctor S. McC. Hamill, of Philadelphia, is president of the Association, and Doctor Wm. C. Woodward, of Washington, president-elect for 1917. Doctor George C. Ruhland, Health Commissioner, Milwaukee, is chairman of the Committee on Local Arrangements.

The sessions will be under the chairmanship of the following:

Obstetrics—Doctor A. B. Emmons, 2nd, Boston.

Propaganda—Mr. George H. Bedinger, Detroit.

Pediatrics—Doctor Borden Veeder, St. Louis.

Governmental Activities and Vital and Social Statistics—Doctor Wm. C. Woodward, Washington.

Public School Education for the Prevention of Infant Mortality—Professor Abby L. Marlatt, Madison.

Rural Communities and Nursing and Social Work—Doctor Dorothy Reed Mendenhall, Madison.

The session on pediatrics will be a joint one with the Milwaukee County Medical Society. The session on Governmental Activities will be a joint one with the Committee on Vital and Social Statistics, and the session on Rural Communities will be a joint one with the Committee on Nursing and Social Work.

Programs or other information in regard to the meeting can be secured from the Executive Secretary, 1211 Cathedral street, Baltimore, Maryland.

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**Tuberculosis Week, December 3 to 10.**—Following the success of the plan last year to focus the attention of the country upon the prevention of tuberculosis during the Red Cross Christmas Seal Campaign, Tuberculosis Week this year will be observed from December 3rd to 10th. In accordance, however, with procedure in other years, the elasticity of the movement is emphasized. Those who wish to observe Tuberculosis Week on other dates are urged to do so, setting their movement as near as possible to that of the national campaign.

Attention should be directed especially to the three special days indicated for Tuberculosis Week—namely, National Medical Examination Day, Wednesday, December 6th; Children's Health Crusade Day, Friday, December 8th; and Tuberculosis Sunday, Saturday or Sunday, December 9th or 10th.

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**United States Public Health Service.**—Congress has recently made an appropriation for 33 additional Assistant Surgeons in the United States Public Health Service. These officers are commissioned by the President, and confirmed by the Senate. The tenure of office is permanent, and successful candidates will immediately receive their commissions.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons after twelve years' service are entitled to examinations for promotion to the grade of surgeon.

Assistant surgeons receive \$2,000, passed assistant surgeons \$2,400, surgeons \$3,000, senior surgeons \$3,500, and assistant surgeon-generals \$4,000 a year. When quarters are not provided, commutation at the rate of \$30, \$40 and \$50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent in addition to the regular salary for every five years up to 40 per cent after twenty years' service.

Examinations will be held every month or so in various cities, for the convenience of candidates taking the examination. Further information will be furnished by addressing the Surgeon-General, United States Public Health Service, Washington, D. C.

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**Predisposing Causes.**—An excellent study along the line of preventive medicine has been carried out by Robinson and Wilson of the United

States Public Health Service. These investigators, at the request of the Board of Health and the Anti-Tuberculosis League of Cincinnati, undertook a survey of conditions in that city to determine, if possible, the reason for the abnormally high death rate from Tb. The research consumed more than one year; 19,932 employees from 38 industries were examined and 154 establishments were inspected. Analysis of the predisposing causes of Tb. was made in cases of that disease found among employees, in those reported to the board of health and among inmates of the municipal Tb. hospital. This analysis was supplemented by a general survey of the housing and economic conditions, of climate conditions, of the prevalence of other diseases as a predisposing cause, and of the character and rate of growth of the population.

The report contains so many interesting and valuable observations that it is difficult to choose particular ones for comment. The analysis of predisposing causes most in evidence in 442 cases of Tb. investigated is instructive: Cases in which there was a history of Tb. in the family, 32.4 per cent; cases in which poverty and poor housing were most in evidence, 9.7 per cent; cases in which alcoholism, venereal disease and excesses were most in evidence, 10.8 per cent; cases in which other diseases and injuries were most in evidence, 8.4 per cent; cases in which occupation hazard or working conditions were most in evidence, 18.1 per cent; cases in which none of the foregoing factors was in special evidence, 20.6 per cent.

Infection from a member of the family is seen to be a very frequent cause of the disease. To prevent this, the writers urge sanatorium treatment for early cases, segregation for open cases, and the education of the family in prophylactic measures. They consider the consumptives who frequent cheap lodging-houses the most dangerous class, and advise their frequent medical examination and segregation. In regard to the predisposing causes found in industries, the writers found that marble and stone workers run the greatest risk of developing Tb. They believe, however, that "in the majority of instances the hazard was not inherent in the occupation itself, but was due to the bad hygienic and sanitary conditions obtaining." Housing conditions and poor economic conditions generally appear to be responsible for a larger percentage of cases than would be suggested by the table. These factors enter into the problem of Tb. in a large proportion of the cases, even when a more definite predisposing cause can be found.

They recommend:

- "1. Erection of a sanatorium for the treatment of incipient cases.
- "2. Increased segregation of advanced cases, and their detection by frequent medical examination of lodging-house inmates.
- "3. A more strict surveillance over families in which Tb. exists, by employment of all-time physicians for making frequent visits and medical examinations of other members of the family.
- "4. Institution of measures whereby a more accurate knowledge can be had of the whereabouts of all reported cases, by the passage of an ordinance by which the city authorities are kept informed of the removals of all families and perhaps some form of colonization of the lodging-house class.
- "5. By having accurate records of all removals, the disinfection of houses and rooms can be more thoroughly carried out, and by using mechanical cleansing and scrubbing with antiseptic solutions will be more efficiently performed.
- "6. Increased detection of both incipient and advanced cases by medical examination of industrial workers, either by physicians from the health department or physicians employed jointly by the manufacturers and workmen.



"7. Improvement in sanitary and hygienic conditions in many workplaces, especially as regards ventilation, time and manner of cleaning floors, toilets and wash-rooms, and promiscuous spitting.

"8. Institution of State industrial insurance, by which the worker can obtain the necessary medical relief, rest, etc., and the family be provided for while the remedial measures are being carried out.

"9. The improvement of home conditions by providing sanitary homes in the suburbs, with reasonable rent and cheap and rapid transit between these homes and the workplaces.

"10. Revision of the building code, with more rigid requirements in regard to old houses and converted tenements and placing tenement-house inspection under the health department, with an increase in the number of inspectors."—*Tuberculosis Among Industrial Workers, Public Health Bulletin No. 73, March, 1916.*

### A VALUABLE NEW CATALOGUE

Parke, Davis & Co. announce the publication of their 1916 price list, which is said to be an improvement in many respects over any previous issue of this valuable catalogue. The book is divided into three parts: Part 1—Fluid Extracts, Pills, Elixirs, Syrups, Tablets, etc. Part 2—Specialists, into which have been merged Special Preparations. Part 3—Biological Products. The nomenclature of the U. S. P., Ninth Revision, has been adopted in the new list, the term "milliliter" ("mil") being substituted for the cumbersome "cubic centimeter." The standards of the new U. S. P. applying to fluid, solid and powdered extracts and tinctures, together with the doses, have also been adopted. All Harrison-act items (products that must be ordered on official order forms) are clearly distinguished. Its amplitude, its handy classification, its comprehensive general index, all serve to make the new catalogue a reference book of the utmost value to medical practitioners. We understand that the book will be ready for distribution about August 1st. Physicians are advised to write for a copy, addressing their requests to Parke, Davis & Co., Detroit, Mich.

**"The Chicago Municipal Tuberculosis Sanitarium Was and Is Doctor Sachs.**—The architect designed, but it was Doctor Sachs who breathed his genius through everything. Later, when the institution was in operation, one could not help but be impressed with the genius of the man in administering this institution which he had constructed. Neither could one fail to notice how absorbed and wrapped up he was in this, his very idol. His political enemies may say that the Sanitarium was a one-man institution, but never in my experience have I seen a one-man institution which so nearly fulfilled the ideals for which it was designed as the Chicago Municipal Tuberculosis. Not only was the institution far more economically built than most large institutions of its character, but in no large public institution in the entire United States for the treatment of tuberculosis was the staff selected with a more single eye to efficiency than in this particular sanitarium. It was not politics, not jobs, not spoils, not favors to friends, but efficiency which dominated Doctor Sachs, and through him the entire Board, in the building, equipping and manning of the Sanitarium."—*Journal of the Outdoor Life.*

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## THE RELATION BETWEEN SYSTEMIC DISEASE AND A FOCUS OF INFECTION IN THE UPPER AIR PASSAGES

By JOHN D. OSMOND, M. D., Cleveland

It is becoming more and more recognized that a number of systemic diseases are influenced by infection. These diseases are more apparent when the constant poisoning of some local infection lowers the threshold of resistance. These local foci may exist in any part of the body; as in the Fallopian tube, or the prostate and the seminal vesicles. However, they are to be found most frequently in association with the nasal passages and the oral cavity, especially the tonsils and the teeth.

The systematic examination of a patient for the purpose of diagnosis includes a careful inspection of the nasal passages, accessory sinuses, throat, and oral cavity. One of three conditions is often found. First, active inflammation, which is purely local or may be the advance guard of one of the diseases of childhood such as scarlet fever and measles. Second, a chronic condition which represents a secondary lesion of a systemic disease. Third, an occult stagnant condition, which when well uncovered represents the principal focus of infection in several systemic diseases. Thus the subject of the evening naturally falls into three groups.

### *First Group:*

The first symptom in many of the infectious diseases is to be found in the nose and throat. An acute rhinitis ushers in measles, scarlet fever, diphtheria and influenza. The mouth and throat symptoms next appear. Concrete examples are the Koplik spots of measles, the bright red throat and coated tonsils



scarlet fever, the gray membrane that clings so tenaciously to the fauces in diphtheria, and the acute pharyngitis and tonsillitis commonly associated with influenza. The four diseases just mentioned are the principal systemic diseases causing middle ear infection. To these can be added five others—typhoid pneumonia, tuberculosis, diabetes and syphilis.

The infectious diseases of childhood are not considered serious by the public. I have known of a mother taking her child to be exposed to the measles that he might get the disease at a convenient time. Preventive medicine is teaching that it is not one of the necessities of childhood to have the measles, scarlet fever, whooping cough and the mumps. Such diseases are preventable and neglect on the part of some one may result in a chronic discharge from the ear or an empyema of the thorax.

### *Second Group:*

In the second group of cases the secondary lesions of systemic disease are not so easily recognized. They are usually some form of tuberculosis or syphilis. Tuberculosis of the nose is characterized by either a low grade slightly depressed ulcer on the anterior portion of the septum, floor of the nose or inferior turbinate, or by a wart-like tumor in which tubercle bacilli are present. Tuberculous lesions of the nose are usually secondary to a similar process in the lungs.

In the mouth, tuberculosis attacks the lips cheeks, gums, hard palate, tongue and alveolar process. In the pharynx, the disease attacks the tonsils, faucial pillars, and pharyngeal wall. It is probably always secondary to pulmonary or laryngeal tuberculosis. Unlike nasal tuberculosis it spreads to adjacent parts. It presents a worm-eaten appearance, the ulcers being surrounded by an area of congestion. The ulcers are superficial and covered by a dirty, grayish secretion and bleed easily.

Secondary syphilis occurs in the form of the mucous patch. It is unusual in the nose and more common in the mouth and pharynx where the secondary lesion appears in about six weeks subsequent to the initial chancre. Mucous patches have the appearance of superficial ulcerated areas and are the result of necrosis of the superficial epithelia, whereby these cells appear grayish-white. They are perceptibly elevated above the mucous

membrane and surrounded by a zone of active hyperemia. In the pharynx they chiefly attack the soft palate and tonsils. Mucous patches are persistent and tend to recur even in the tertiary stage.

### *Third Group:*

The predominating etiological factor of a number of systemic diseases is a focus of infection. This focus of infection may be found anywhere in the body, but is most frequently found in the nasal accessory sinuses, the tonsils and the root abscesses and pus pockets around the teeth. The systemic conditions under consideration are anemia, endocarditis, rheumatism, arthritis, osteomyelitis, neuritis, headache, melancholia, insanity, disorders of digestion, gastric ulcer, gall bladder inflammation and nephritis.

The diagnosis of a diseased accessory sinus is sometimes made by transillumination. This method is only useful for the maxillary sinus. It gives very little information regarding the condition of the frontal sinus.

Inspection of the anterior nasal cavity gives satisfactory information regarding how many sinuses are involved. Attempting to treat the maxillary sinus before knowing whether or not it is being filled by pus draining from the frontal sinus is obviously an error. A radiograph of all the sinuses taken in the Hopkins' position is important in every sinus infection. The X-ray will soon be widely used for the treatment of sinus disease. In a series of six cases marked improvement has been secured after two treatments with the Coolidge tube. I believe this form of treatment will also be used in alveolar abscesses. A New York dentist makes it a practice to radiograph all teeth under treatment once a month. This gives him an absolute check on his work and incidentally adds a very efficient therapeutic measure.

The tonsils as a portal of microbic and toxic invasion are well recognized; many clinical observations agree that endocarditis and rheumatism often follow acute tonsillitis. Repeated inflammations change the surface and structure of the tonsil. The tissue may hypertrophy or become harder and smaller. It harbors many organisms. The studies of Rosenow prove the relation between tonsillitis and endocarditis and rheumatism. He has



isolated streptococcus viridans from the depths of the tonsil in repeated cases and produced endocarditis by injecting it into animals. He has likewise isolated a diplococcus and a hemolytic streptococcus and produced rheumatism and arthritis in repeated cases.

In view of the fact that many observers have been unable to isolate and grow organisms from tissues involved in rheumatism and arthritis cases, it will be worth while to review a part of Rosenow's work. After considerable difficulty in getting the cultures to grow he reasoned that the peculiar localization of the organism in rheumatism about the joints and endocardium, regions relatively avascular and hence of a correspondingly low oxygen pressure, might be due in part to an extreme sensitivity of these organisms to oxygen. Therefore he made shake cultures in long tubes of ascites dextrose-agar, the bottom of the tube being anaerobic and the top aerobic, and in between these two points would necessarily be a wide range of oxygen tension. Thus the organisms select for themselves the degree of oxygen best suited to their development. Certain streptococci may take on cultural features and other properties quite different from those they had when first isolated. Streptococcus viridans, the organism in chronic septic endocarditis can by animal passage be converted into pneumococci. The experiments demonstrated that the transformation is complete. The pneumococci formed from streptococci have capsules, are indistinguishable from the former in morphology, correspond to all the differential tests known, have a pathogenicity more or less characteristic of pneumococci, producing hemorrhages in the lungs and exudative pneumonia, are agglutinated specifically by anti-pneumococcus sera, and give rise to the formation of anti-bodies specific for pneumococci.

During the transition of streptococci into pneumococci and vice versa there are intermediate forms which correspond to those strains of which streptococcus viridans is the most typical example and to the streptococci from rheumatism.

The hemolytic streptococci have a marked affinity for the joints of man and animals. The organisms taken from tonsils when injected into animals show a marked affinity for the joints producing arthritis repeatedly. When the hemolytic streptococcus was converted into the streptococcus viridans it lost the af-

finity for the joints and acquired a marked affinity for the heart valves, producing hemorrhages in the heart valves and endocarditis repeatedly without arthritis. Further studies make it seem likely that it is in the focus of infection that changes in virulence occur and the different affinities for different structures are acquired. In other words the focus of infection is to be looked on not only as the place of entrance of the bacteria but also the place where the organisms acquire the peculiar property necessary to infect.

Rosenow's work was carried on mostly with the organisms found in deep tonsillar tissue.

Goadby in 1910, 1911, 1912 produced rheumatism in rabbits from organisms obtained from dental abscesses. Abscesses about the roots of dead teeth are now coming to be regarded as frequent a source of systemic disease as deep tonsillar infection. Some difference of opinion has developed between the medical and dental profession regarding the preservation of dead teeth. Many physicians feel that some dentists take pride in not extracting a dead tooth even if its root is surrounded by an abscess. Many investigators especially Hartzell and Upson have reported cases where neuritis, insomnia, headache, melancholia and dementia praecox have disappeared as if by magic after withdrawing a dead tooth imbedded in pus. It is true that the symptoms will disappear upon treating the diseased condition without withdrawing the tooth but in the majority of cases the symptoms will reappear within a short time after treatment. It is better to sacrifice a diseased tooth and wear a small plate than not to regain health. It is the great opportunity for the dentist to co-operate with the physician and get a result for the patient. The same applies to abscesses about the roots of living teeth. Many a filled tooth that looks normal and healthy, has an infected pulp near the root and the latter is surrounded by an area of devitalized tissue. The radiograph will detect even the small areas of infection, varying densities in the alveolar processes are recorded, and clear evidence is given as to the condition of the tooth, the presence or absence of a filling material in the dental pulp cavity, and changes occurring in the bone about the teeth. Alveolar abscesses are being found with the radiographic film when all ex-



ternal local signs of infection are lacking. Bad dentistry will be revealed by the X-ray sooner or later and many dentists make it a rule to have a radiograph made of every filling before the pa-

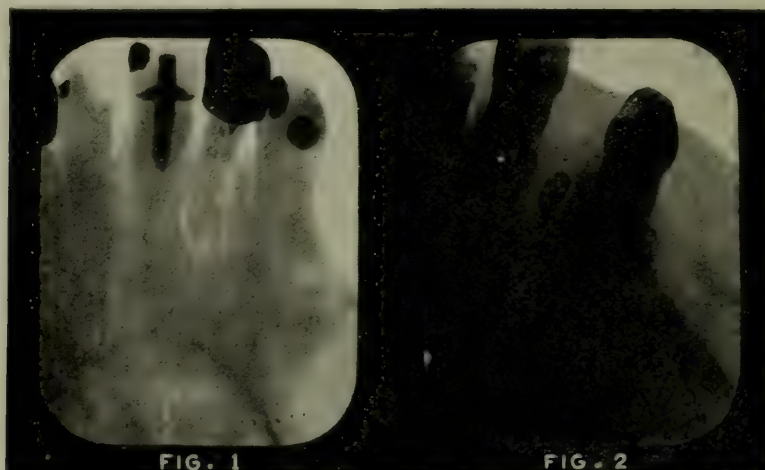


Fig. 1  
Root Abscess—One Broken Root

Fig. 2  
Same as Fig. 1—Root Not Removed at Time of Extraction  
of Tooth

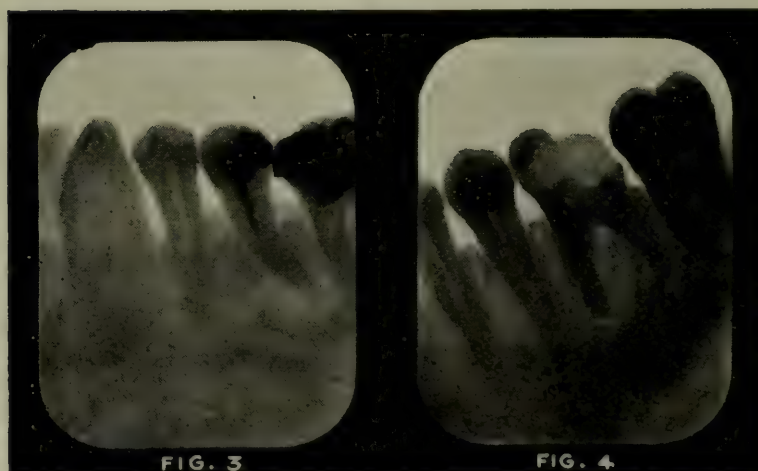


Fig. 3  
Abscess at Apex of a Lower 2nd Bicuspid

Fig. 4  
Root Abscess of First Molar Associated with Infected Tonsils

tient is discharged. It is well known that the patient will have reflex pain in some cases if the root filling extends through into the soft tissues. However, the same reflex pain follows the prac-

tice of immediate filling of teeth if any of the living dental pulp remains. An example of this reflex pain is persistent headache that occurs when the teeth are over-crowded in the arch.



Fig. 5  
Root Filling Forced Into Abscess—Tooth Removed Later

Fig. 6  
Root Abscess Treated by Removal of Filling

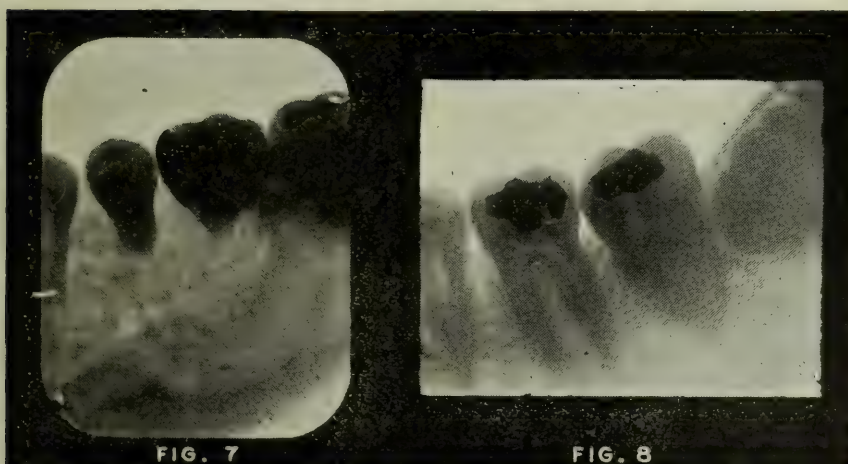


Fig. 7  
Adamantine Epithelioma Necessitating Removal of Four Teeth

Fig. 8  
Impacted Third Molar

The acute dental abscess contains the staphylococcus and in the chronic dental abscess the streptococcus viridans is the predominating organism. Great advance is being made in preventive medicine by the knowledge that acute and chronic diseases come



from mouth infections in a majority of instances. Charles Mayo has pointed out that appendicitis, diseases of the gall bladder and ulcerated stomach are caused by bacterial infarcts in the capillary circulation at the base of the mucous cells in these organs, and are caused by local infection.

Some of the lantern slides that will be shown were kindly loaned to me for this occasion by Dr. John F. Stephan. The cases are typical of alveolar infection. He has given me the history of one of his patients having an impacted third molar. It is really an historical case because it formed the beginning of Dr. Henry S. Upson's studies of teeth impaction as a source of insomnia and melancholia.

### *Case History:*

The patient was an unmarried woman, twenty-seven years old; a teacher, who for a year had been profoundly melancholy with intractable insomnia, delusions of various deadly sins, and entire hopelessness of recovery. Restlessness was extreme. Tonic and local uterine treatment were of no avail. Upon investigating her dental condition, Dr. Stephan advised that radiographs be made of the teeth. An impacted left upper third molar was found pressing against the second molar, a condition obviously capable of causing irritation. The symptoms in about a week after the removal of the tooth, began to improve. Recovery was complete in six or eight weeks. Four years later the melancholy returned. Another radiograph was made of the opposite side. During the four year interval the right upper third molar had developed and was pressing against the second molar. Its removal brought about complete relief from the melancholia.

### **References**

- E. C. Rosenow. *The Journal-Lancet*, Vol. XXXIV, No. 1.  
C. H. Mayo. *The Journal of the Natl. Dental Association*, Vol. III, No. 2.  
T. B. Hartzell. *The Journal of the Natl. Dental Association*, Vol. III, No. 2.  
H. S. Upson. *Insomnia and Nerve Strain*.

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**OCULAR TUBERCULOSIS**

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Although some of the following reports of cases are not as complete as they might have been had opportunity for more extended observation been afforded, they have nevertheless been included because of what partial evidence they contain. It is often difficult to control dispensary patients sufficiently long to administer a course of tuberculin injections, and indeed, one feels gratified if there has been opportunity for performing tuberculin reactions and blood tests.

The first reports concern two cases of phlyctenular conjunctivitis, which have been included not because phlyctenular conjunctivitis is regarded as a tuberculous process, but because of the belief that it is dependent upon the presence of tuberculous foci elsewhere in the body, which give their toxins to the circulating body fluids.

**Phlyctenular Conjunctivitis.** M. Y., an Italian girl of six years, applied in May, 1914, for treatment of a recurring eye affection. Both eyes were affected by phlyctenular conjunctivitis, and the keratitis of phlyctenular conjunctivitis. For five weeks the child received hospital care, the familiar local and general measures being employed. When she was dismissed her eyes were not entirely free from inflammatory reaction and photophobia. After dismissal from the hospital she was observed from time to time at the dispensary. The moderate improvement in the process secured in the hospital was lost soon after her return home where conditions were far from favorable, and both eyes were constantly the seat of a greater or less degree of reaction. In June, 1915, she was sent to Rainbow Cottage, where treatment with tuberculin supplemented the other measures being employed. Gradual improvement began at once, and in three to four weeks her eyes were entirely quiet and free from photophobia. In August, 1915, the patient was dismissed from Rainbow Cottage, and has had no return of the process.

E. C., a negro girl of four years, came into the hospital in August, 1914, the right eye being the seat of severe phlyctenular conjunctivitis and the keratitis of phlyctenular conjunctivitis.



After a month's local and general treatment of the sort advised in such cases, there occurred suppuration of some of the cervical glands of the left side, with general febrile reaction. The glands were incised by a general surgeon who undertook their treatment. The patient remained under hospital treatment without improvement until she was transferred to Rainbow Cottage in July, 1915, where injections of tuberculin were employed in addition to other treatment. There was rather ready response to this, but increased reaction of the eye occurred later and lasted for some weeks, when gradually the eye became quiet and the temperature normal. When she was dismissed from Rainbow Cottage in September, 1915, her eye was entirely quiet and has so remained.

That both these patients were painstakingly treated for about a year without improvement occurring, and that prompt and lasting improvement followed the addition of tuberculin to the treatment, seems significant at least, but the fact that this is by far too small a number of cases upon which to base an opinion is not overlooked.

In the next report there is noted the rather unusual association of phlyctenular conjunctivitis with scleritis.

**Phlyctenular Conjunctivitis and Scleritis.** Mrs. E. K., aged 25 years, complained in November, 1913, that her right eye had been affected for a year.

In the lower-temporal quadrant of the conjunctiva, close to the limbus, was a large phlycten, the summit of which had broken down. In the cornea were the familiar signs of the keratitis of phlyctenular conjunctivitis, superficial vessels crossing the limbus throughout the corneal circumference. Patches of scleral reaction were present in the upper-temporal quadrant of the anterior portion of the sclera, as well as in the lower-nasal quadrant, and in the lower quadrant. Corneal opacities occasioned the view of the fundus to be hazy. No fundus abnormality was present.

There was a positive von Pirquet reaction of the skin to old tuberculin. During the general physical examination, it was observed that there were evidences of an old involvement of the right lung. Phlycten of the conjunctiva of the left eye now appeared.

The patient disappeared before the subcutaneous inoculations of tuberculin for diagnosis could be carried out, but the physical condition of the pulmonum was at least suggestive.

The two following reports concern cases of pure scleritis, at least there was no observable involvement of other structures.

**Scleritis.** Mrs. S. S. in January, 1910, applied for treatment, stating that during the past two years recurring attacks of redness and pain in the eyes had been experienced.

In both eyes there was a scleral reaction which was most intense in the upper quadrants. In the upper-nasal quadrant of sclera in the left eye there was a nodule 4 mm. in diameter and 1 mm. in height, lying about 5 mm. from the limbus. The corneae were negative.

The von Pirquet skin reaction to old tuberculin was positive. General physical examination revealed retraction of the right upper thorax, restricted movement, and râles.

The patient disappeared before further work could be accomplished, but here again the condition of the pulmonum should be considered in its bearing upon the case.

Mrs. H. B., aged 42 years, in November, 1915, complained of recurring ocular inflammation during a period of 13 years. The first attack of pain and redness of the eyes lasted for a week, and was very severe for three or four days. In a year occurred a similar attack. During the next two or three years there was no attack, but following this there were frequent recurrences, and the interval became six to seven weeks. From January to June, 1915, there were five recurrences. The eyes remained inflamed during the entire month of July, 1915, this being the most severe attack in three or four years.

In the interval the eyes were quiet. As a prodrome of an attack there was a sense as of hair brushing the anterior portion of the eye balls. Then followed severe, constant pain, localized deep in the eyes, and in the occiput. There was increased sensitiveness of the eyes to pressure. A general injection of the eyes occurred, this being of a violaceous hue. There was marked photophobia and increased lachrymation.

At the time of the examination, one of the shorter attacks was just subsiding. There was some injection of the bulbar conjunctiva, more marked beneath the lower lids. The scleral vessels



were injected, particularly in the lower half of the eye, but were to be observed over the entire anterior portion of the eyes. There was ciliary reaction, most marked below. The corneae and the irides were negative. Ophthalmoscopically in the macular region of both eyes were small yellowish areas, about the size of a large retinal vein. The vision was normal. The tension of the right eye was 14.5 mm. of mercury, and that of the left eye was 15 mm. of mercury.

A brother who was nursed by the patient, died of tuberculosis. There was a very moderate pyorrhoea alveolaris, and her teeth had been well cared for. There was a slight goitre and slight tremor. The general physical examination was in the main negative. The blood Wassermann reaction was negative. The von Pirquet skin test was positive. After failure to react to 1 mg. of old tuberculin, then to 2 mg., an injection of 4 mg. was given, to which there was a decided general reaction. There was no focal reaction in the eye.

The patient is now under tuberculin treatment and her eyes remain entirely quiet. She remarks concerning a sense of ocular comfort not before experienced for years.

The three cases next to be discussed, were of the sclerosing keratitis type, the cornea as well as the sclera being affected.

**Sclerosing Keratitis.** Mrs. A. M., aged 40 years, came in April, 1914, complaining that for a month her right eye had been painful, and stated that 20 years before the same eye was similarly affected, the process lasting for nine months.

The circumcorneal sclera was injected and, especially in the temporal quadrant, thickened, this portion being very sensitive. The corneal outline was marked with the irregularities of sclerosing keratitis. There was kerectasia, and the corneal surface was dull. Interstitial opacities and deep vessels were observed, and in addition a few small brownish precipitates. No fundus abnormality was made out.

One of the patient's brothers died of tuberculosis, as did one of her children. Night sweats were experienced, her weight was 89 pounds, and she had lost strength. Her physician had made a diagnosis of tuberculosis in her case.

No further investigation was possible, but without it, the evidence favored ocular tuberculosis.

Mrs. H. W., aged 23 years, experienced the first ocular inflammation in 1912, the right eye being affected. Since then there have been a number of recurrences, the left eye not becoming involved. In September, 1914, when she applied for treatment of her eye, the circumcorneal portion of the sclera was the seat of an inflammatory reaction, and in the upper temporal quadrant of the anterior portion of the sclera was a nodule 6 mm. in diameter and 2 mm. to 3 mm. in height, separated from the limbus by a distance of about 8 mm. The cornea was irregular in shape, somewhat ectatic, dull, and contained opacities of the sclerosing keratitis type. Deep vessels were present, and there were large lardaceous deposits on the posterior surface of the cornea.

A diagnosis of lues was made in 1912 and the patient received active anti-luetic treatment. When she came for treatment of her eyes in September, 1914, her blood Wassermann reaction was negative.

The skin reacted positively to the von Pirquet test. After failing to react to smaller doses of tuberculin given subcutaneously, the injection of 3 mg. was followed in 12 hours by greatly increased reaction and very severe pain in the eye. No general reaction occurred.

Therapeutic injections of old tuberculin were given, beginning with 0.0001 mg. and were continued over a period of six months, attaining a dosage of 8 mg. The usual local measures were employed. Under the treatment the eye became gradually quiet, and has since remained entirely quiet and the vision has improved. There remains considerable corneal opacity.

Mr. B. C. applied on January 21, 1916, for treatment of his left eye, the vision of which had been poor since he was a child. Eight years ago an inflammation of the right eye occurred, which subsided after six months. Six months later there was inflammation of the left eye, which lasted for six or seven months. Then later, the right eye became again involved. For a year past there have been recurring attacks of inflammation of the left eye. The visual acuity of the right eye was 6/15, and of the left eye, counting of fingers at 18 inches.

The cornea of the right eye was sharply defined at the limbus, and the surface bright. There were diffuse nebulous opacities and deep vessels. A few large lardaceous precipitates were



present, also a few tiny pigmented spots on the anterior lens capsule.

The cornea of the left eye appeared smaller than that of the right, and the margin irregular, due to an apparent encroachment of the sclera on the cornea. The corneal surface was dull and there were opacities in the cornea, mainly of the macular variety. Deep vessels were present. No precipitates were observed.

The pupils were unequal, that of the right eye being about 3 mm. in diameter, and active to light, and to accommodation and convergence. The left pupil was about 2 mm. in diameter and fixed, but for a small portion of the upper border which reacted to light, and dilated under atropin. There was partial pupillary occlusion, brown pigment filling all but the extreme upper portion.

The patient is a stonecutter. There was nothing in the patient's family or personal history suggestive of the etiology of his eye affection. Lues was denied. General physical examination disclosed a possible involvement of the pulmonum, perhaps an old process. The von Pirquet test was positive. After injection of 0.5 mg. of old tuberculin without causing any reaction, decided general and local reactions followed the inoculation of 2 mg. There was no ocular focal reaction.

The patient's chest will be radiographed and a blood Wassermann test performed. If further evidence is corroborative of the process being tuberculous, tuberculin injections will be employed.

Including a case of sclerosing keratitis which was reported before this section in March, 1913, there have been given details concerning four such cases, in all of which tuberculous foci were present in the body. In only one of the two patients with whom tuberculin could be employed subcutaneously, did its use for diagnostic purposes cause an ocular focal reaction. This patient is also the only one who has received treatment with tuberculin, and the eye has remained quiet for the six months intervening since this treatment was suspended. Two of the patients disappeared. The fourth will probably begin a course of therapeutic injections of tuberculin in the immediate future.

In the next case scleritis was associated with the formation of an iris nodule. No involvement of the choroid could be made out with the ophthalmoscope, but the vitreous was hazy and it is possible that there was present choroiditis of the anterior segment of the eye.

E. H., aged 23 years, applied to the hospital in May, 1914, for the treatment of his left eye, which had been painful for five weeks. In the upper-temporal quadrant of the sclera, close to the limbus and to the vertical meridian, was a small colorless nodule which was surrounded by considerable scleral reaction. In the upper-nasal quadrant of the sclera close to the limbus, was a small dark colored area. The cornea was the seat of pannus of the upper-temporal quadrant, and of some macular opacities of the pupillary area. The pupil was moderately dilated from previous instillation of atropin, and did not react to light. There were posterior synechia. In the nasal angle of the anterior chamber was a nodule of faintly-yellowish color, which was pressed against the posterior corneal surface. Its vertical diameter was 2 mm.

There were vitreous opacities and central vitreous haze. The view of the fundus details was indistinct. No fundus abnormalities were observed. In a week following the admission to the hospital, the nodule in the upper-temporal quadrant of the sclera had disappeared, and its former site was marked by a slate-colored area. In two days following, the nodule in the anterior chamber could no longer be seen.

The blood Wassermann reaction was negative. There was no reaction to the injection of 1 mg. of old tuberculin, but the injection of 2 mg. was followed by a pronounced general reaction. No ocular focal reaction occurred, however.

The patient left the hospital in a couple of days. His eye was quiet.

The next case was one of possible association of scleritis with choroiditis. There were marked opacities of the vitreous, but no choroidal lesion was visible.

**Sclero-Choroiditis.** Mr. W. H., aged 19 years, in March 1914, complained that the vision of the right eye had failed.

There was scleral reaction in the right eye. A large number of precipitates were observed on the posterior corneal surface, many of these being lardaceous appearing and of considerable size. In the vitreous were floating opacities and the view of the central portion of the fundus was rather hazy. No fundus abnormality was seen.

The blood Wassermann reaction was negative, while the von Pirquet reaction was positive. The patient did not return for



further observation, so that there was insufficient evidence for the diagnosis of an active tuberculous lesion.

In March, 1913, the record of a case of scleritis associated with choroiditis was reported before this section, in which the patient's Wassermann and Noguchi reaction had been shown to be negative, but whose reaction to 2 mg. of tuberculin was a positive, general one. The eye became quiet under treatment with tuberculin, and has remained quiet.

The four cases next considered are those with choroidal foci, there being no apparent involvement of the sclera.

**Choroiditis.** Mr. A. B., aged 35 years, complained in November, 1913, of poor vision with the right eye, the visual acuity of which was the counting of fingers at two feet.

There was conjunctival and ciliary reaction. Many deposits were present on the posterior surface of the cornea. On the anterior lens capsule was a ring of iris pigment from ruptured synechia. No view of the fundus was obtainable because of dense vitreous opacity. Because of some uncertainty concerning the physical signs of the pulmonum, a radiograph of the thorax was made, and the findings were negative. The blood Wassermann reaction was negative at two tests eighteen months apart. The von Pirquet skin reaction to old tuberculin was positive. There was a general febrile reaction to 2 mg. of old tuberculin administered subcutaneously. No ocular focal reaction occurred.

Antitubercular measures were recommended, but declined. The vision of the eye has fallen to seeing the hand reflex.

Mr. R. D., in April, 1914, complained that in November, 1913, the vision of the right eye began to fail. His visual acuity at this time was 6/30 with the right eye, and 6/4.5 with his left eye, and a month later his visual acuity was 5/60 with the right eye, and hand movements with the left eye. There was ocular discomfort, most prominent at night.

Both eyes were the seat of an extensive choroiditis.

The blood Wassermann reaction was negative. General physical examination was negative. A febrile reaction occurred to 1 mg. of old tuberculin, but no ocular focal reaction.

Before tuberculin treatments were instituted, the patient was dismissed from the hospital because of an infraction of the rules.

Mr. S. A., aged 31 years, made the complaint in May, 1915, that his left eye had been affected for two months.

There was faint ciliary reaction of the right eye, and numerous posterior synechia. The vitreous was hazy at its center and the details of the fundus were blurred. Patches of disseminated choroiditis were observed, some of which were active. In the left eye there was faint ciliary reaction and posterior synechia. Central vitreous haze rendered the details of the fundus indistinct. Patches of disseminated choroiditis were present and many of these seemed active.

The blood Wassermann reaction was negative. The von Pirquet skin reaction was positive, and a general reaction was secured by the use of old tuberculin subcutaneously.

Treatment with tuberculin in addition to the other measures was recommended, but the patient has disappeared.

In summarizing, the following facts seem salient:

1. Of ten cases comprising scleritis, sclerosing keratitis and sclero-choroiditis, tuberculosis was definitely present in eight. This was shown by a reaction following tuberculin inoculations in five, all the patients who were inoculated reacting; in three there were signs of pulmonary tuberculosis; in one case signs of an old pulmonary process, and in one case the examination could not be completed. All four cases of choroiditis reacted to tuberculin injections.

2. Each of the ten cases, four of scleritis, two of sclero-choroiditis, and four of choroiditis, in which the blood Wassermann test was performed, reacted negatively, while the nine of these patients inoculated with diagnostic doses of tuberculin, reacted positively. In one patient not inoculated, the physical signs of pulmonary tuberculosis were prominent.

3. The seven cases in which a general reaction followed the diagnostic use of tuberculin, showed negative physical findings. The eighth patient has yet to be radiographed.

4. Of the nine reactions to tuberculin, eight were general without an ocular focal reaction, while one was an ocular focal reaction without a general reaction.

5. All six of the cases in which the positive von Pirquet reaction was followed by a diagnostic inoculation of tuberculin, reacted positively to the latter.

6. Tuberculin therapy in the five cases in which it was employed, accomplished the apparent cure or marked improvement not attending the use of the routine measures.



## A MEDICAL MISSIONARY'S JOURNEY TO PERSIA IN WAR TIME\*

By ROLLA E. HOFFMAN, M. D., Persia

Teheran, Persia, October 23, 1915.

(Received December 1, 1915.)

Dear Friends at home :

We have stopped here for a few days, and I shall take advantage of this, my first opportunity to write you unhurriedly about our trip to Persia.

Our party consisted of Mrs. Douglas and Dr. Mary Smith, returning to Teheran, Dr. Frame returning to Resht, Dr. Mary Fleming and Dr. and Mrs. W. P. Ellis going to West Persia, and Miss Margaret Cowden, D. M. Donaldson and myself going to the East Persia Mission. We sailed from New York on the Scandinavian-American line steamer "United States" on August 26th, were detained three days by the British at Kirkwall, in the Orkney Islands, for inspection, and after a perfectly calm voyage landed at Christiania September 9th.

Our ship, 10,000 tons, had the inscription "United States, Denmark" printed on her side in large letters, illuminated at night for the benefit of possible prowling submarines. The captain and crew were all Danish, and were very pleasant people. Captain Gotsche was good enough to take most of us up on the bridge, and gave the first class passengers the run of the whole ship. His wife, in Copenhagen, is president of her church missionary society; so he remembered our missionaries who went to Persia on the "United States" last March, and sent his regards to them. The ship's band was a good one, and the orchestra had a good repertoire of classical music. The food was very good, and of wide variety, with a marked predominance of meats and fish, and almost every imaginable kind of cheese. We sat at the ship doctor's table—making doctors in all. Dr. Schierbeck took us all through the ship's hospital, and did his best, with his limited knowledge of English, to load us with information. A news bulletin was published daily or every two days, giving us the news received by wireless—the baseball scores, stock market, and war news, received at first from New York and later from a

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\*Note.—These letters from Dr. Rolla E. Hoffman, a former Western Reserve graduate, will be published from time to time in this journal.—Acknowledgments to Board of Foreign Missions of the Presbyterian Church.

station on the English coast. The sea-gulls seemed to like us; a few began to follow us about three days out, and the number increased until at Kirkwall a great flock of them surrounded the ship, and their squawking was almost continuous from dawn till dark.

As we passed the northwest corner of Scotland, a converted freighter man-o'-war fired across our bow, and when we stopped, placed on board several officers, who escorted us into the harbor at Kirkwall, in the Orkney Islands, where our passports were inspected and one third-class passenger, a naturalized citizen who had not brought his naturalization papers, was detained. We arrived Saturday noon, and were held until Tuesday morning. On Monday there occurred the great "International Games, for the Championship of the 'United States.'" There was a potato race, sack race, three-legged race, egg race, and best of all, a pillow fight—two men sitting astride a pole over some mattresses, each man with a pillow in either hand with which he belabored his antagonist, the first one to lose his balance and fall off being the loser. My prize for helping Donaldson win the three-legged race was an ivory pocket chess set in a leather case; it has seen considerable service already, on ship-board and in the Persian carriages traveling through the desert. We were not allowed to land. There were a number of other ships in the harbor, Danish, "Norge" and "Sverige," all freighters detained for inspection. We saw only one American freighter.

The Orkney Islands have a peculiar appearance. There are no trees to be seen—we were told that many of the inhabitants have never seen a tree. For the most part we saw gently sloping hills, with winding roads along which an occasional wagon made its way, and fields of varying shades of green, separated by low hedges. There were a few low cliffs and promontories, with neat white light houses. Opposite the Kirkwall harbor mouth is the summer castle of the Earl of the Orkneys; he spends his winters in London.

Saturday evening at Kirkwall there occurred the captain's dinner; it was very elaborate, with some ten courses. The tables were decorated with American and Danish flags; each person had a paper roll which contained a paper cap which he was expected to wear. The first officer looked like an ice man, and the rest of us hardly less picturesque. The captain made a little



speech, upon request, and a jovial American proposed several toasts.

Our amusements on shipboard consisted of shuffle-board and quoits, promenading, dominoes, checkers and chess. We missionaries had several good story-readings, and the other folks several dances on deck.

### Norway

We stopped at Christiania the morning of the 8th, and for ten hours turned our noses up the beautiful Christiania fjord, with bare, rugged rock scenery on either side, the formations at all angles, and little boats of all sorts along the shores. We passed several Norwegian submarines, many small sailing craft and fishing boats, and several small villages tucked in among the stern-looking rocks, and in the evening came to the large, quiet, irregular Christiania harbor.

After passing the Customs we went to the Hotel Scandinavia, which we made our headquarters for about twenty-four hours. Christiania is a city of some 200,000 people; the chief sights are the University and the Viking ship, the latter being located in a shed at the University, and said to be over 1,000 years old. We saw neither of these, but went by a winding trolley line up the side of the mountain to Holmenkollen, where we had a fairly good view of the city and harbor, wandered about among the pine trees and plucked a few huckle-berries; saw the little lake there, and got lunch at the Tourist Hotel. We ordered sandwiches from the Norwegian bill of fare, and it was interesting to see what unexpected things turned up—hummer proved to be lobster; metwurst, a vicious sausage, as we might have known—though we expected ham and wienerwurst respectively.

We took the evening train for Stockholm. The Scandinavian trains are light and shaky; the cars have corridors along one side the whole length of the car, with doors opening into the compartments. The latter are about square, the berths running crosswise of the car; the upper berth swings down and forms the back of the seat. Four persons occupy a compartment, i. e., two upper and two lower berths. Very good bedding was furnished us in Norway and Sweden, but none in Russia. The baggage coach consists simply of a freight car—light, high, with four wheels which have spokes. Taking the advice of older members of the party, I left my camera in my trunk until I landed in Persia, so

I have no pictures to send you except some few post cards which I picked up from time to time. The picture of a Russian train will give you some idea of the Norwegian and Swedish trains, which, however, are lighter than those in Russia. The train stops 15 to 30 minutes at lunch stations—you help yourself at the tables and counter in the dining room, and pay as you leave the room.

### Sweden

After an over-night ride from Christiania, we arrived in Stockholm and made our headquarters at the Hotel Continental for one day, September 10th. Stockholm is a modern city of some 400,000, with a beautiful harbor and very efficient street railway system. Here, as also in Christiania, the cars of each route are numbered with the same large figure, which is very convenient for strangers. One enters and leaves on the left side; the fare is 10 öre ( $2\frac{1}{2}c$ ); each passenger is given a receipt for his fare, for the convenience of the conductor and of the inspectors who visit the cars at unexpected times. The business section of the city is very similar to that of any American city. We visited a museum, and spent a couple of hours in Skansen, an outdoor park and museum showing in their natural habitat and surroundings, so far as possible, the animals and plants of Sweden—crops, flowers, medicinal plants, etc., and houses from all parts of the country. In one building was an array of wagons, carriages and farm machinery, and there is a zoo of considerable size.

Some of us went shopping, and had very little trouble getting about and making ourselves understood. Most of the larger stores have one or more clerks who speak English, and issue shopping lists, giving in parallel columns the names of various articles which they handle, in English and Swedish. We secured flashlights and batteries somewhat cheaper than I could have gotten them in Cleveland. Ellis got a Corona typewriter, but at about \$5 more than the American price. This happens to be a Corona which I am using now, but I beg of you do not judge either the machine or Dr. Ellis by the work I am doing on it!

We called on the American consul and got an additional visa on our passports, which we learned Russia was requiring during the war—a statement that we were native-born American citizens, etc. We took the evening train north from Stockholm, for we learned that no safe passage was available across the Baltic to



Finland from any place in Sweden. We almost missed the train, because of the exceedingly deliberate way our baggage was handled.

In North Sweden we were interested in the way the crops were harvested and cared for. In many places oats and barley and hay were being harvested. It is cut with sickles and bound in very small bundles, three or four of which make a shock; or more commonly they were not shocked, but the sheaves are placed horizontally, one above the other and crosswise of each other, on upright poles four or five feet high, the pole sticking up through the sheaves; later, when the grain—which is cut green—is dry, it is hauled to the barn and stacked. It is surely a slow and laborious way of harvesting grain. Most of the land is rocky and uneven, much of it swampy and covered with scrubby pine and cedar undergrowth. The villages are small and few, for the most part the land is a desolate wilderness.

After two nights and a day on the train, we arrived at Haparanda, on the Swedish-Russian border at the north end of the Baltic Sea. We intended to spend Sunday there, but found that the only small hotel was crowded, so we had to spend most of our Sunday in the customs houses at Haparanda in Sweden, and Torneo in Finland, and crossing the river by steamer. These two villages, each of a few thousand people, have grown up "overnight" because of the war, this route being Russia's chief means of communication with the outside world. We crossed the river on a little steamer, the "Iris," though we were about an hour on board, waiting for a place at the dock, the actual crossing took about 15 minutes. At Haparanda we saw a trainload of wounded Russians who were being sent home from Germany, via Sweden. The station was closely guarded by Swedish troops, who wear helmets somewhat like those of the Germans. We saw a load of parcels post packages which were on their way into Russia. They were being hauled out onto the dock in clumsy, high-wheeled cars drawn by one horse and loaded into a sort of barge. The Swedish customs officers objected somewhat to the thermometers and cotton which Dr. Frame had in his baggage, and it took some little time to persuade him that they were not going to be used in Russia. But we finally got through and took the evening train for Helsingfors and Petrograd.

## Finland

Finland is a country of lakes and swamps. Here, too, we saw hay being harvested. It is cut with sickles or scythes and hung in bunches on a large framework 20 to 30 feet long and 10 to 15 feet high—"hay-ricks" I believe they are called—making a wall-like stack.

We spent much of the time during our 30 hours' ride to Petrograd in playing games—go-bank, go-spiel, halma, dominoes, chess and checkers. The Russian railway system was interesting to us. The trains are somewhat heavier than those of the Scandinavian roads, and most of them have closed vestibules. They are built on the same general plan as those of Sweden, however. In Finland, wood is the usual fuel, while in Southern Russia oil is burned, a very clean fuel. The engines have shrill whistles, but no bell. First-class coaches are usually blue; second-class, brown; third-class, yellow. We traveled second-class and were quite comfortable. The cars are much like those of Sweden, which I have already described. Our party of nine occupied two whole compartments, and one of us went into a third, usually with two or three Russians as companions. The trains stop frequently at the restaurant stations, for 15 to 30 minutes. The food is all prepared and placed on the tables and counters; you help yourself and pay as you leave the room. The food is well cooked and of good variety, the meats and cheese being especially good. In Finland we had two meals in the dining car—regular course dinners. For drinks we used tea and coffee, bottled mineral water and bottled "kvas," always to be found at the restaurant stations. Kvas is a bottled carbonated fruit juice which most of us liked very much. Even the small stations have a stand where bottled drinks and candies can be secured. No intoxicants are to be seen, and in our journey through Russia we saw only two drunken men.

To us Americans the trains are provokingly slow; stops are frequent and long, and there is the utmost deliberation about starting. The station bell is rung once about 15 minutes before the time for starting, twice about 5 minutes before, and three times when the trains is, presumably, ready to start. Then presently the guard blows his whistle shrilly, in a moment the engine answers with a slightly less shrill toot, and then, unless some reason has been discovered justifying further delay, the train starts.



Our hand baggage was passed through the Russian customs at a small station on the border of Finland and Russia proper, and our trunks the next day at the customs house in Petrograd. Contrary to our expectations, the inspectors were very kind and polite, and no objections were offered to any of our luggage. My inspector very much admired by "Baby Ben" alarm clock and asked me where I got it, the cost, etc.

### Petrograd

We reached Petrograd at about 11 p. m., the 13th, and very fortunately were met at the station by Mr. Ralph W. Hollinger, a secretary of the Mayak or Y. M. C. A. in Petrograd. I had written him some months ago about our coming, and we had telegraphed him during the day, and though the telegram had gotten mixed up and he thought a Y. M. C. A. secretary was the stranger to be met, he took charge of us, and after some hunting found a place for all of us at the Regina Hotel. They had all of us at their home for a Russian tea one afternoon, and kindly placed at our service their fourteen months' knowledge of Russia. We were certainly fortunate in having them to look out for us. The hotels were full of refugees from Poland and elsewhere, and our party, arriving as we did at 11 p. m., with practically no knowledge of Russian and unable to use the telephones, would have been up against it. Donaldson, Ellis and I all knew Hollinger when he was student secretary at Western Reserve University some years ago.

The *ivostchik* drivers were interesting to us "tenderfeet"; they are quite picturesque with their long robes padded about the waist till some of them look like big eggs, and their peculiar stiff hats and highly colored sashes. They are to be found everywhere, yelling constantly at unwary pedestrians and at each other for the right of way. In Moscow they charged excessive rates, as the street cars were not running when we were there because of the strike which happened to be on. The Russian method of hitching horses is not a bad one, with the arch over their shoulders, the hames fastened to the shafts and the arch by short straps and no tugs at all.

We did some shopping and wandered about the city somewhat; five of us purchased tropical helmets. We found that American and English goods were high, but Russian goods not materially advanced in price; clothing, blankets, etc., are a little

cheaper than in America, I think, at present rates of exchange. The value of the rouble is given in the 1914 Baedeker at 51¼c, but we exchanged at only 35c; Russian money is lower than English for we got 12½ roubles per pound. We learned a few words, and by using the International sign language freely were able to get about and shop very well. One lady of our party, however, had to crow like a rooster on one occasion to make the waiter understand that she wanted eggs for breakfast, and the lady went to a hair dresser and made signs of scratching her head as a signal for a shampoo, whereupon crude oil was produced, and the proper treatment for her supposed itching was vigorously applied!

The Nevski Prospekt is a wide, modern street with a good car line and good business blocks—the Fifth Avenue of Petrograd, which is a very cosmopolitan city of 2,000,000 people. We visited the famous Kazan cathedral on the Nevski. The building is fronted by a crescent-shaped porch, with several rows of large columns; the cathedral itself is not so large, but makes an imposing appearance from the Nevski. We were present for part of a service; the bass and tenor were both very beautiful voices. We spent half a day in the Alexander III Art Museum; many of the paintings are grand, both oil and water-colors. I remember especially "The Cossacks writing their reply to the Sultan," who had demanded that they become Mohammedans; there are two of them (the paintings), one in Moscow. They show the same characters, but in different attitudes in the two pictures, so that at first sight the two look alike, but further observation shows many differences in detail. A copy of the Petrograd picture is placed beside the other in a museum at Moscow. Numerous groups of convalescing wounded soldiers, in charge of nurses, were improving the time in the museum.

At the American consulate we learned that our permissions to travel on the Trans-Caspian Railway had not arrived; that through a misunderstanding on the part of the board the proper request had not been made, which meant that in order to get to Meshed at once, we would have to make the overland trip from Teherân. The assistant at the embassy advised us to keep our cameras hidden in Russia, as seven or eight Americans were then in jail in various parts of the country, some of them for indiscreet use of their cameras.



On Friday evening, the 17th, we took the train for the 12-hour ride to Moscow; the Hollingers came to the station to see us off.

### Moscow

We arrived in Moscow on Saturday morning and departed Monday evening. Hollinger had telegraphed to Mr. Gaylord, who happened to be there, and he had rooms engaged for us, which was fortunate for us, because Moscow had even more refugees than Petrograd, and all the hotels were full to overflowing. We stopped at the Hotel Paree-Angleterre—before the war the Hotel Berlin. Moscow is truly Russian—unlike Petrograd. It is a city of 1,800,000, the industrial and railway center of Russia. At the center of the city is the old city or Kremlin, on a small hill, surrounded by a thick, high wall. It contains the palace, the old palace, a large armory and barracks, several churches and a large monastery. We visited the palace, very elaborate with its gold decorations, lighted by thousands of electric lights. We saw the old palace, from which Russia was ruled for centuries when Moscow was the capital. About the armory is a large collection of obsolete cannon—thousands of them, in heaps and rows. We saw the largest bell in the world, the sides 11 inches thick. We visited the Church of the Redeemer, with its five large gilt domes, and spent a few hours in the Tretyakoff Art Museum, which contains chiefly oil paintings, but a few statues.

Some of us had a Russian bath, some did a little shopping, and most of us attended the Russian Grand Opera. The singing was the best we ever heard, we were agreed, the costumes brightly colored, and the acting very good, but the plot was hard for us to follow.

On Sunday morning we attended church at the only English church in Moscow—Church of England. In Moscow we also visited the historical museum, which shows apparently a very complete collection of relics from all parts of Russia, but since the labeling is all in Russian we were unable to appreciate the collection as we should have done.

On Monday evening, the 20th, we started on our longest stage by rail, and arrived in Baku on Thursday evening the 23rd. The country through which we passed is for the most part fairly level, and we saw extensive wheat and other grain fields; in many places wheat was being threshed. It is shocked much the same

way as in Ohio, and at threshing time loaded onto wagons, hauled to the machine and threshed. The machines have steam engines, but no blowers; the straw is forked back in the old-fashioned American way. In many places the grain was stacked. There are very few fences in this part of Russia, and we saw large areas in grain which looked like one great field. The wheat in shock looked pretty black.

On Thursday we saw some mountains of considerable size, and ran along the shore of the Caspian Sea for several hours. At one station we saw a trainload of the second line of reserves—which includes eldest sons, only sons and sons of widows—starting for the front. A big crowd of women and children were at the station to see them off, and we saw a little of the “nether side” of war. One woman especially was very hysterical, and scores were crying as their sons boarded the train. As the train pulled out, the soldier boys waved their caps from the doors of the freight cars in which they were packed, yelling “Dä svedäniä! Dä svedäniä!” (farewell, or till we meet again).

### Baku

Baku is in the oil fields, as our noses told us when we drew near. Here we saw Tartars and Cossacks in various costumes, a couple of camel caravans, and dozens of small craft in the harbor. There are some stores where European goods can be purchased, and some of us, unable to rid ourselves of the habit, bought a few things.

Frequently, in the stores in the various Russian cities, when the shopkeeper found that we could not speak Russian, he would look stealthily about, and if no one resembling a soldier or policeman seemed to be about, would say, “Sprechen sie Deutsch?”

### Resht

We left Baku on Friday evening, taking the weekly steamer for Enzeli, Persia's seaport, where we arrived Saturday evening about dark. Our steamer was late, because of a storm on the Caspian; but the storm had ceased when we finally started, six hours late, and though we had a little rocking, so that the ladies stayed in their cabin almost all day, we had good sailing, and made up some time. We heard that the steamer brought to Baku the Turkish consul in Resht, who had been financing a disturbance there, and after repeated warnings had failed to quiet them, had



been arrested by the Russians. All the steamer's crew were Russians; there were only three or four first-class passengers besides our party. Dr. Frame purchased a piano in Baku, and I greatly enjoyed watching about a dozen Tartar porters get it onto the boat. The talking and tugging was very amusing, all of them talking all the time, and each one seeming to have his own plan for moving the piano. I also enjoyed watching the loading of about 2,000 parcels. They were carried on board by half-naked porters, and I learned to count to fifty in Russian by listening to the counting of them as they were dropped into the hold. When you send things to Persia by parcel post, prepare them for pretty rough treatment.

Mr. Murray met us at the steamer at Enzeli, and after passing the customs we took the carriages which Mr. Murray had brought, and rode some 24 miles in the rain to Resht, two or three in each carriage. The Persian carriages are like the Russian, but always have two horses, except the heavy post carriages, which have four, hitched abreast. Mrs. Douglas and I, in our carriage, ate the lunch sent for us by Mrs. Murray, by the intermittent light of my flashlight.

We stopped at the Murray's home, except for a few luncheons at the Frames'. The Murrays live upstairs, the boys' school occupying the lower floor of the house, and the Frames live in another part of the city, the dispensary and the girls' school being in their compound or enclosure. On Sunday, after the church service, Dr. Frame was married to Miss Grace Murray, the Rev. Chas. Murray officiating, and the British consul being present. The service was in Persian, and most of the Persian Christian community was present.

Resht is a very wet place; it rains often for thirty consecutive days. Much rice is raised in the vicinity, and a great deal of the surrounding country is "jang-gal" or jungle. The streets are narrow and crooked, and one sees nothing but mud walls and a few trees projecting above them, except in the bazaars. Every house is enclosed by mud walls, with a gatekeeper to admit those who would enter. The missionaries there, like those in most other places, it seems, have too much work. There seemed to be no one available at all to open the girls' school until they found that they could get a Miss Brainhartnell, an English missionary from

Ispahan, who had been forced to leave her work there because of political conditions. Dr. Frame was preparing his dispensary for work when we left; it had been closed for two years while he was on his furlough and delayed in America by illness.

Dr. Smith and Mrs. Douglas went on to Teheran, taking with them to Kasvin, Miss Cowden, while the rest of us waited for definite orders from the Mission. We soon got a telegram instructing us to proceed to Teheran, and Miss Florence Murray, who had been in Resht nursing her sister for some weeks, was instructed to go to Hamadan. So we three got a spring wagon, as no carriage was available, and started for Kasvin on Thursday, September 30th. We put a top on the wagon of heavy muslin and went in regular pioneers' fashion, with our hand baggage loaded in the front part, and ourselves occupying the rear part. We went by post, like the regular carriages, changing horses about every three or four hours, and arrived in Kasvin on Saturday, October 2nd, taking 48 hours for the trip. We had a great time; one balky team had to make three starts before it finally succeeded in reaching the top of one hill. And just after we climbed the steepest grade on the whole journey, where the road winds in and out, sort of clinging to the side of the mountain, and had started down a gentle grade on a straight road, we felt an unusually severe jolt, and presently stopped. We saw the Armenian lad who was going with us to Teheran, riding with the driver for the privilege, jump off and run back ten yards or so, then leave the road and climb some 20 feet down the embankment, to reappear a moment later with—what do you suppose?—our left front wheel! We did not count the times we had to stop for the driver to fix a break in the harness; Persian harness is made of leather originally, but as usually seen it is hard to say whether leather or string predominates in its make-up.

The Persian post carriage is usually a closed carriage, of the type of the old American stage coach, but a little lighter—it is drawn by four horses hitched abreast. The Persian horses are very small, and only stallions are driven. They have been termed by Dr. Esselstyn "mice," we were told. Horses and driver are changed at each "mansel" or post house, which are placed every 13 to 20 miles along the road. The roads are really very good, except for the many loose stones, which give one constant jolts of



assorted sizes. The houses occur much more frequently than mansels, and the drivers stop now and then for a cup of tea, and to rest their horses. In the vicinity of Resht, the rice country, most of the roofs seen along the road are thatched, the steep roofs being made of rice straw; but in about 20 hours we left the rainy country, and came into the dry, dusty real Persian—out of the jungle into the desert; and here the houses are all made of mud—mud walls and roof and all; and ever since we have seen only mud and stone houses. Except for a little valley now and then watered by a small mountain stream, with a group of houses, the only houses we saw besides the inevitable tea-houses were now and then a caravan station. The caravans travel by night, and rest during the heat of the day at these stations, which have mud buildings and usually water for the animals at a stream.

We passed several small caravans—Persian freight trains—of donkeys, mules, burros and camels, usually at night. It was a new sensation to me to be awakened from a jolty doze by a great clanging of bells of all sizes, and turn my head to see a string of silent camels, silent except for the choruses of bells, mechanically moving along, each one tied by a halter and rope to the one ahead of him, in strings of ten or twelve. The jangling of the bells would die away at times as the tail-end of a string passed, but would be renewed with vigor as the big leader of another string came along, fairly loaded down with a dozen or more bells. Then for the sake of variety a string of burros or mules would take the place of the camels, with an occasional “sharvadar” punching the lazy ones with his short stick, and encouraging them with his “m-m-m-m” or “sh-sh-h-h” long drawn out.

We took a lunch along, which Mrs. Murray kindly prepared for us, but stopped several times at mansels for a good meal of “pillau” and boiled or roast chicken, and several times a day for a cup of tea, or rather a glass, for the Persians seem to think that all “Ferangi” like the Russians, like their tea in glasses.

This is the most pleasant time of the year for traveling in Persia, for the days are not so terribly hot if one is riding in the shade of a carriage top, and the nights are quite cool—so cool that we needed our two blankets apiece. It is remarkable what a difference there is between the temperature in the shade and in the sun. As I write, I am comfortable in the house, while on the street it is quite hot even in October.

### Kasvin

As one writer says, Persia is like a great sea, with a few islands; Kasvin is one of these islands, and has no very distinguished feature. There have been rumors to the effect that the Germans and Russians would send a force by way of Kasvin to Teheran; and there is a Russian force there, chiefly cavalry, of probably two thousand. Persia seems to have a hard time maintaining her neutrality. The general feeling of the people is anti-Russian, but the military power is nix, and Russia has the stranglehold on the whole country.

Our only missionaries in Kasvin are Dr. and Mrs. Lawrence. They have two daughters, eleven and seven respectively, who enjoy the distinction of being the only children in the whole East Persia Mission at present. There are very few English-speaking people in the city, and the whole family seemed to enjoy our visit immensely. The girls are taught regularly by their mother, with a bell to call them to school, regular recesses and noon hour, and everything like an American school. They have a dog, chickens and turkeys for playmates. The fowls are all named. Marie Ruth, the younger daughter pointed them out to us—classical names, characters from their books, and prominent men and women. She said, "We had Wm. Jennings Bryan, but we killed him!"

Dr. Lawrence conducts a dispensary, simply for the sake of getting a crowd to preach to, for he is interested a great deal more in preaching than in medical work. The dispensary is in the main part of the city, while the Lawrence home is just inside the city wall, a very nice location. After a very pleasant visit of two days, from Saturday till Monday, Misses Murray and Cowden started for Hamadan—we have since heard that they arrived safely—and we started for Teheran in the best carriage we found available at the station.

Our carriage was a closed one and looked about 50 years old. Behind the high driver's seat was a space where we piled our hand baggage but before we had left the city, winding about the crooked streets, the front spring broke, and we were delayed three hours while we drove back to the station and had a new spring put in. The station manager insisted that our baggage was too heavy, and weighed it, whereupon we were charged about



\$2.50 excess baggage. Then we made a fresh start, and got to Teheran, 90 miles in 22 hours, very good time.

The road between Kasvin and Teheran is fairly level, and monotonously the same all the way—mile after mile of desert sand, with fairly high, absolutely bare mountains on the left, looking like huge sand hills, and a side stretch of desert on the right, with an occasional small oasis marking the place of each stream—and mountains in the distance. The days were quite hot, but the nights very cold, and we had trouble keeping warm with our three blankets between us—for we gave one to the Armenian lad with us, who was poorly protected against the cold.

And so we came safely to Teheran, and have been getting acquainted with the 15 missionaries here, about whom I shall tell you in a later epistle.

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**The Chronic Cripple.**—R. A. Hibbs, New York (*Journal A. M. A.*, Sept. 30, 1916), calls attention to the problem of the chronic cripple and the importance of enthusiasm on the part of the surgeon in treating these cases. He suggests that the orthopedic surgeon should have a more special training than the general surgeon and longer preliminary training. The largest number of these patients are treated in the hospitals only for immediate operations. If a man's training is only in a hospital, his preparation for the managing of the large percentage of patients who never see the hospital is likely to be defective. There can be no question but that the operative treatment is important, but Hibbs is concerned with regard to the larger volume of the nonoperative cases, that they be not neglected. He believes in having institutions wholly devoted to the treatment of this class, and where they can receive it instead of in the small and insignificant orthopedic department of a general hospital, where the atmosphere is not, he believes, the most helpful to this class of cases.

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**Health Insurance.**—B. S. Warren, Washington, D. C. (*Journal A. M. A.*, Sept. 30, 1916), has drawn up a plan for health insurance as the next step in welfare legislation, which is given in outline, with the remarks on the special points involved. He points out its advantages in detail and its relation to other social reforms. It includes a corps of full-time medical officers, and while giving free choice of registered physicians, these could oversee the treatment and carry into effect the regulations. The final result would be, according to his plan, to place health on a competitive basis in the political and business world.

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**Do Your Own Thinking and Voting.**—"One man turns a desert into a garden—and we increase his taxes. Another turns a garden into a desert—and we diminish his taxes. Verily we are a great people."

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"Public improvements increase the value of land only. Then why should not the taxes on the value of land pay for public improvements."

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"A tax on goods makes goods dearer, but on land's value makes land cheaper. Then tax land only to get both things cheaper."

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## RECENT ADVANCES IN PEDIATRICS

By HUBERT C. KING, M. D., Cleveland

**Hereditary Syphilis in the Light of Recent Clinical Studies**—Borden S. Veeder, M. D.—*Am. Jour. Med. Scien.*, CLII, 1916, 535, p. 522.

Veeder, of Washington University Medical School and the St. Louis Children's Hospital, has made a comprehensive and careful study of hereditary lues and has investigated the families from which these children came. He has brought out many interesting facts.

Regarding Colles' law, that apparently normal women bearing syphilitic children acquire an immunity to syphilis or do not contract syphilis when exposed to infection, it was found that of 85 such mothers, in whom there was no knowledge of, nor clinical signs of lues, the Wasserman reaction was positive in 74 or 87 percent.

In 100 syphilitic families 331 pregnancies occurred with the following results:

Abortions .....	100 or 30.2 percent
Still births .....	31 or 9.3 percent
Living births .....	200 or 60.5 percent

At the time of the collection of this data 39 children of the 200 living births were dead and 161 alive, but 12 of the 161 died during the observations. Of the 161 but 33 were free from infection. Thus in 331 pregnancies in 100 syphilitic families but 10 percent of the children escaped infection.

A general dystrophic condition, together with the appearance of more or less specific lesions, is common. In infants developing lesions early a rhinitis or coryza was first noted. Many cases did not develop lesions until long after birth. Veeder mentions three cardinal symptoms. Rhinitis or coryza was present in 77 percent of his cases, a rash in 74 percent, and a palpable spleen in 82 percent. Contrary to most text-books, a desquamative dermatitis, particularly of the palms of the hands and the soles of the feet, was far more common than a macular or maculopapular eruption. Epiphysitis is a common lesion. Of 100 cases of "late" syphilis, 23 were defectives. Of the cases showing



lesions late, and classified as "tardy" syphilis, it is of interest to note that the central nervous system was involved in 47 out of 100 cases.

The Wassermann reaction was positive in 23 percent of a group of children showing hydrocephalus, 20 percent of those with epilepsy, 30 percent of those with spastic paraplegia, and in 50 percent of those showing hemiplegia.

In 20 cases, with positive blood Wassermanns, the spinal fluid was examined. In 15 of the 20 cases the central nervous system was involved. In 14 of the 15 the Lange "colloid gold" test was positive, while the Wassermann test was positive in 8 of the 14 tested. Both Lange and Wassermann tests were negative on the spinal fluid of all 5 cases without clinical signs of central nervous involvement.

In regard to the Wassermann reaction on the blood, Veeder states that he has seen but one patient with late hereditary syphilis whose blood failed to give a positive reaction, and in this case the diagnosis was questionable. An occasional new-born syphilitic child may react negatively at birth and later show a positive reaction. This may be because the infection of the child occurred just before birth and a certain time must elapse before the formation of reactive bodies.

Regarding treatment, Veeder states that he has found gray powder the most satisfactory therapeutic agent. In these cases the outcome, as far as life or death is concerned, depends far more on the condition of the patient's nutrition than upon the character of the specific medication.

**Influenzal Meningitis**—Robert G. Torrey, M.D., *Am. Jour. Med. Scien.*, CLII, 1916, 534, p. 403.

In 1911 Wollstein announced the elaboration of a serum for the specific treatment of this disease. It was prepared by immunizing a goat by means of virulent influenza bacilli. Experimentally the disease was rapidly and invariably fatal in untreated animals, but complete recovery, without complications, was obtained by intra-dural injection of the serum.

In the present article three new cases are added to the literature. Two of these cases received the influenza serum and both recovered. The first case was in a little girl of eleven years. The patient had a severe attack of influenza with a frontal sinus

infection, followed by typical cerebro-spinal meningitis. The spinal fluid was turbid and, at first, the organisms were, to a certain extent, extracellular, but, after the first injection of the serum, they were all intracellular. The culture from the fluid showed a pure growth of the influenza bacillus. The spine was tapped thirteen times, while but three injections of the serum were given. The use of the serum was discontinued because the patient seemed to be improving and because of the pain occasioned by the injections. With the clearing up of the organisms in the fluid, the temperature remained normal and the stiffness of the neck, which was the last remaining symptom, gradually disappeared.

Doctor Packard, of Philadelphia, told Torrey of a case in which there was an infection of the middle ear and mastoid in a child. Symptoms of meningitis ensued, and lumbar puncture yielded a turbid fluid, under high pressure, from which there was obtained, in pure culture, the influenza bacillus. The symptoms were removed and the fluid became clear after four injections of influenza serum.

Regarding treatment there are three measures worthy of consideration:

- (1) The influenza serum of Wollstein.
- (2) Hexamethylenamin—of questionable value.

(3) Repeated lumbar puncture. The value of this procedure may be from relief of excessive intracranial pressure and improved blood supply in the brain and cord, from removal of toxins, or the passage of protective substances into the cerebro-spinal space, coincident with the resulting lowered pressure and increased outpouring of fluid. It may act as a protective against internal hydrocephalus by tending to keep the foramen of Majendie washed clear of exudate.

**The Auto Serum Treatment of Chorea**—A. L. Goodman, Ph. M., M. D., *Arch of Ped.*, XXXIII, 1916, 9,649.

In 1889 Wassermann and Westphal published the finding of a streptococcus in the blood of chorea patients. This isolated streptococcus, when injected into guinea pigs, caused a rise in temperature, swollen joints, and choreiform movements. Since then many investigators have published their results, but no organism has been demonstrated as the cause of chorea.



It suggested itself to Goodman that the cause of our failure in treatment was the fact that the therapeutic agents failed to reach the seat of the trouble, which exists in the central nervous system.

His method of treatment follows: 45 or 50 c.c. of blood are withdrawn from a vein and rapidly centrifugalized. The serum is then pipetted off and kept on ice. Lumbar puncture is performed and about 20 c.c. of fluid collected. The serum is then heated to body temperature and very slowly injected into the spinal canal. The injection should take from 10 to 15 minutes and usually 15 to 18 c.c. of the serum are injected. The child should be without medicine for four or five days before the serum is obtained to prevent throwing upon the central nervous system a serum charged with a powerful drug.

Thirty cases have been treated and the results published are very gratifying.

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**War Injuries.**—A case that is of interest on account of the number of wounds, the way they were treated and the result of recovery after numerous plastic operations, is reported by C. A. McWilliams, New York (*Journal A. M. A.*, April 8, 1916). The patient was wounded at the front and received the first attention ten hours afterward, and was admitted to the hospital after four days. The wounds comprised: (1) Wound at the level of the eleventh rib in the midscapular line. (2) Wound in the face involving the right half of the lower mandible, where there was a defect of at least an inch in the bone which had been blown away, the whole lower part of the cheek and right half of mouth, which involved both upper and lower lips, and tip of nose and right ala. This wound was infected with maggots and was indescribably foul. (3) Shell wounds on the buttocks which were superficial and suppurating. (4) Shell wound just below right clavicle, with partial paralysis of right arm. Pulse was present on that side. (5) Wound of right great toe. (6) Simple Pott's fracture of both bones of the right leg, apparently involving the angle joint, probably obtained by falling. The fractured leg was put up in a Cabot splint. The mouth wound was cleaned and a number of plastic operations performed, some of which are illustrated. How the man survived all these injuries has been considered remarkable. A very interesting feature of the patient's four wounds of the nose, cheek and chest was that they were all made by a single missile, and were in direct line. The course of the bullet was from the nose to the cheek to the lower jaw, where it had its exit; then it entered again just below the clavicle and penetrated through the axilla, where it injured the brachial plexus, finally making its exit beneath the middle of the scapula behind or its course may have been in the reverse direction. The injury of the brachial plexus was not a complete division of any of its branches, as the movements of the arm could be done, though greatly weakened. The jaw was repaired with grafts from the tibia, and this and the other plastic operations are of interest.

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## REVIEW OF THE PROGRESS OF MEDICINE

By HAROLD FEIL, M. D., Cleveland

### Comparative Review of Renal Function Tests

The advances in estimating renal function have been noteworthy of late, and especially have the former anatomical conceptions of renal disease been altered by the new physiological-chemical methods. The estimation of the elimination of lactose and potassium iodide (Schlayer<sup>1</sup>) has been superseded by the newer methods and resumès of the value of the recent laboratory tests have appeared based on a large series of cases.

Chace and Myers<sup>2</sup>, comparing the tests in diagnosis and treatment of nephritis, believe that chemical analysis of the blood, including uric acid, creatinin, urea, sugar, and carbon dioxide combining power are of great value in diagnosis and prognosis. They have found an increase "in the uric acid of the blood to be of considerable value as an early diagnostic sign of incipient nephritis. The urea of the blood has been found very valuable as a guide to the treatment of moderately severe cases of nephritis, since any change in the patient's condition is quickly perceptible." The finding of creatin in over 5 mg. to 100cc has prognosed a fatal issue within a short period. "The determination of CO<sub>2</sub> combining power of the plasma (Van Slyke) is a valuable index to the degree of nephritis from the viewpoint of both diagnosis and treatment."

"In cases of advanced diabetes complicated with nephritis the glycosuria or absence of glycosuria is very poor guide to the hyper-glycemia, since the nephritis has lowered the permeability of the kidney for sugar. In these cases the estimation of the sugar of the urine should always be supplemented by the determination of the sugar of the blood."

Mosenthal and Lewis<sup>3</sup>, in reporting a comparative study of tests for the renal function, criticize "testing renal function as a whole," believing that only through correlation of the various methods can we arrive at correct conclusions.

1. *Phenolsulphonephthalein* test—Rowntree<sup>4</sup> says that after intramuscular injection, a urinary excretion of the drug of 60 per cent or more in two hours is normal and that when the drug was continuously excreted in traces or not at all, a grave prognosis was to be given even without signs of uremia.



2. *Nonprotein nitrogen*—30 mg of nonprotein nitrogen per 100cc of blood, unless there is a very high protein intake is the average upper limit. Any value above 30 mg was regarded as indicative of some degree of renal insufficiency; above 90 mg indicates a great increase. Urea nitrogen composes normally 50 per cent of nonprotein nitrogen, with N retention the percentage increases. Upper limits of urea N may be estimated as above 12 mg per 100 cc. McLean showed urea nitrogen may be as high as 23 mg per 100 in normal individuals. Mosenthal and Lewis conclude that "determination above 15 mg in 100cc of blood as revealing the possibility of nitrogenous retention."

3. "Ambard's coefficient of urea excretion expresses numerically the relation between the concentration of blood urea and the rates of excretion of urea in the urine." Impairment of renal function results in a slowing of the rate of urea excretion—with a higher blood urea concentration. The reader is referred to McLean<sup>5</sup> for an extensive discussion. Numerically expressed, when values rise above 0.09 kidney impairment is indicated.

4. The test meal for renal function: Dr. Mosenthal<sup>3</sup> has performed an excellent work in his adaptation of the Hedinger and Schlayer test meal. "The test meal for renal function consists of the two hourly collection of urinary specimens during the day while the patient is on a full diet, and of a ten to twelve hour specimen at night. No food or fluid is taken except at meal times. The collection of the night specimen is begun three hours after the evening meal. Under these circumstances a normal test yields a maximum specific gravity of 1.018 or more, the specific gravity varies nine points or more from the highest to the lowest and the night urine is small in amount (400cc or less) and of high specific gravity (1.018 or over.) A lowering of the maximum specific gravity, a fixation of the specific gravity and a nocturnal polyuria are the signs indicating a diminished renal function." Mosenthal believes that estimation of the volume of the urine together with specific gravity readings are sufficient to estimate renal efficiency, leaving salt and nitrogen determinations for more detailed work. He has divided renal deficiency cases into four groups—"slight, moderate, marked and maximal." Mosenthal says that in private practice it would only be necessary to ask the patient to eat three full meals a day and write down the approximate quantities, as—1 cup of coffee, 2 slices of toast, 2

tablespoons of oatmeal, etc., in order to be certain that the diet for the day contained a sufficient quantity of the diuretic materials of our ordinary food to make an adequate demand on the kidney to test renal function. It is particularly necessary that the patient does not eat or drink between meals or during the night.

#### NORMAL REACTION TO NEPHRITIC TEST MEAL (Mosenthal)

Time of Day	Urine		Sodium Chlorid		Nitrogen	
	c.c.	Sp. Gr.	Per Cent	gm.	Per Cent	gm.
8-10	153	1.016	1.32	2.02	0.89	1.26
10-12	156	1.019	1.25	1.95	0.74	1.15
12- 2	194	1.012	0.64	1.24	0.59	1.14
2- 4	260	1.014	0.77	2.00	0.56	1.46
4- 6	114	1.020	0.99	1.13	0.95	1.08
6- 8	238	1.010	0.43	1.02	0.52	1.23
Total day .....	1,115	.....	.....	9.36	.....	7.32
Night, 8-8 .....	375	1.020	0.63	2.36	1.23	4.61
Total 24 hours...	1,490	.....	.....	11.72	.....	11.93
Intake .....	1,760	.....	.....	8.5	.....	13.4
Balance .....	+ 270	.....	.....	-3.22	.....	+ 1.47

Impression (the figures correspond with Chart 1): Normal reaction to the nephritic test meal. Note the variations occurring in the fluid output, and the specific gravity, which are in inverse ratio; the night urine, which is small in amount and shows a high specific gravity and a high percentage of nitrogen; and the approximately normal output of water, salt and nitrogen in twenty-four hours.

Normally the fluid intake exceeds the urinary output by 400cc. The sodium chloride determined in the urine represents the intake. About 90% of nitrogen intake should be found in the urine. Normal urine may have a concentration of salt and nitrogen above 1%, while an abnormal urine kidney will not be able to excrete such a specimen. The most important points to be observed in the urine of normal individuals on the nephritic test meal are:

1. Variations in the specific gravity of the urine specimens (usually 10 points or more; in cases of diminished water intake and oliguria the variations may be somewhat less.)
2. The balance between the output and intake of salt, nitrogen and fluids. This should be approximately equal.
3. A night urine high in specific gravity (1.016, but usually 1.018 or higher) high in its percentage of nitrogen (above 1 per



cent) and small in amount (400 cc. or less) regardless of the quantity of fluid ingested or the amount of urine voided during the day.

*Results following test diet in chronic interstitial nephritis:*

1. Nocturnal polyuria (over 400 c.c.).
2. Tendency to total polyuria (the volume of the urine equals or surpasses the quantity of liquids ingested).
3. Fixation of specific gravity, gradually becoming more intense, until it is absolute and the specimens only show a maximum variation of 1 or 2 degrees. In the earlier stages, specific gravity may be fixed at a higher level than later.
4. Fixation of the two hourly specimens eliminated. The usual polyuric response to meals is absent.
5. The quantity of night urine may diminish to within normal limits. Such night urines, however, are characterized by a low specific gravity and a low percentage of nitrogen.
6. A retention of both salts and nitrogen, which may become very marked.

*Renal congestions:*

1. Specific gravity markedly fixed at the level of about 1.020.
2. A diminished output of salt.
3. An adequate nitrogen output.
4. An oliguria.
5. A night urine normal in character.

*Parenchymatous nephritis:*

Bears great resemblance to findings in renal congestion. The results vary widely with the stage of the disease, and give the physician "an idea of the status of salt, nitrogen and water excretion."

Mosenthal and Lewis conclude that:

(1) The level of the nonprotein and urea nitrogen of the blood are determined by three factors—kidney efficiency, diet and protein destruction. Retention alone offers better prognosis than when coupled with protein destruction.

(2) The Ambard coefficient better determines the ability of the kidney to excrete urea, than does the estimation of the blood urea alone.

(3) The phenolsulphonephthalein test and Ambard's coefficient are the best means of following changes in renal disease.

(4) The renal test meal will detect kidney disease earlier than the other methods. It shows maximum impairment earlier than will the other means.

Doctor Barker, in discussing these methods, emphasizes the fact that by means of the phthalein test and the renal test diet the general practitioner may "reap the many benefits derivable from the studies of renal function as far as they have yet gone."

### References

1. Schlayer and Takayasu. *Deutsch. Arch. f. Klin. Med.*, 1910-11, CI, 333.
2. Chace and Myers. *J. A. M. A.*, 1916, LXVII, 929.
3. Mosenthal. *Arch. Int. Med.*, November, 1915, 733.  
Mosenthal and Lewis, *J. A. M. A.*, 1916, LXVII, 933.
4. Rowntree, L. G., and Fitz, R. *Arch. Int. Med.*, March, 1913, p. 258.
5. McLean, F. *Jour. Exper. Med.*, 1915, XXII, 212.

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**Scientific Priority.**—Seldom does the true scientist urge a claim for priority in any discovery he may make; the pseudoscientist does. This is especially true in medicine. As soon as any new fact is demonstrated or an original theory advanced, some one will want to rush into print with unconvincing proof that he originally had the same idea months or years previously. Schuster, in his presidential address to the British Association for the Advancement of Science, has well stated the psychology of such claims:

"New ideas may float across our consciousness, but selecting the wrong ones for more detailed study, we waste our time fruitlessly. We are bewildered by the multitude of roads which open out before us, and like Poincaré when he tries to play chess, lose the game because we make the wrong move. Do we not all remember how, after the announcement of a new fact or generalization, there are always many who claim to have had and perhaps vaguely expressed the same idea? They put it down to bad luck that they had not pursued it, but they have failed precisely in what, according to Poincaré, is the essence of inventive power. It may be bad luck not to have had a good idea, but to have had it and failed to appreciate its importance is downright incapacity.—*Journal American Medical Association*.

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WM. D. FULLERTON, M. D., Cleveland

### Posterior Position of the Occiput During Labor

Owing to the very general belief that posterior positions of the occiput are a serious obstetrical complication for which a veritable host of methods of handling are advised, many of which are fantastic or harmful, a most careful statistical study and resumé has been recently completed by E. D. Plass, working over the clinical material of J. Whitridge Williams, in the Johns Hopkins Hospital, and published in the *Bulletin* of that institution, 1916, Vol. XXVII, No. 304. It is urged that those particularly interested in the subject read the original article, as this review is inadequate and incomplete in conveying to the reader even the most important points of a valuable contribution.

Until 1742 it was thought the occiput engaged in the pelvis in the same position in which it was eventually born, that is, directly anterior. In this year Sir Fielding Ould expressed himself that the head entered the pelvis with the occiput directed diagonally to the right or left. Saxtorph and Solayres in 1771 advanced the view that the head engaged in the right oblique diameter, and later Baudelocque recognized six varieties of cephalic presentation, the four oblique and two anterior-posterior. Naegele was the first to mark the frequency of occiput posterior positions and their usual rotation to the symphysis.

Plass tabulated 5770 consecutive available cases with the following results as to percentage frequency of the various presentations: Vertex 94.60, face .34, brow .13, breech 3.87, transverse .96, compound .07. The varieties of vertex presentations were found to be L. O. A. 47.61, R. O. A. 19.06, L. O. T. 12.86, R. O. T. 8.89, L. O. P. 3.30, R. O. P. 7.96, and O. P. .31 per cent. From these figures it will be seen that there were 635 cases of occiput posterior or 11.57 per cent. This figure is lower than usually given and probably accounted for by the fact that many cases were first seen late in labor after a certain amount of internal rotation had taken place.

A large number of the cases found in R. O. T. and L. O. T. probably were posterior at the beginning of labor, but if all were considered so there would be as many original L. O. P. as R. O. P.

positions, which is contrary to general experience, so that in this study only cases definitely posterior when first seen are considered.

The actual frequency of the originally obliquely posterior positions is difficult to determine on account of the anterior rotation with resulting transverse or anterior positions. Numerous recent authors give figures varying from 3 to 49 per cent for primary posterior positions. Had the posterior positions (11.57 per cent) of this series been added to the transverse positions 21.75 per cent, the resulting 33.32 per cent would approximate the average figure for primary posterior positions. Also, if all the right and left positions were added together the figures would show 35.91 per cent right and 63.77 per cent left, which closely agrees with the general figures for cephalic engagement.

Internal rotation of occiput posteriors is another very interesting phase of the subject. Plass found 85.8 per cent rotated anteriorly and 14.2 per cent posteriorly into the hollow of the sacrum. Poor flexion of the head, premature children and funnel pelvis were found to be the most important factors interfering with anterior rotation. Abnormal pelves of other types than the funnel did not interfere as anterior rotation occurred spontaneously in 70 of 83 cases and in only 4 or 5.71 per cent did the occiput rotate posteriorly; whereas in 34.7 per cent of funnel pelves posterior rotation took place. Where inlet contraction was present operative rotation was necessary in only 15.6 per cent, but with outlet contraction interference was necessary in 33.3 per cent. Of all the occiput posteriors 27.25 per cent rotated to transverse positions, remained stationary or rotated into the hollow of the sacrum. This is a large number, but it will be remembered that half of these rotated to the hollow of the sacrum and in 88.0 per cent were followed by spontaneous delivery.

The posterior inclined planes of the pelvic floor, a narrow pubic arch and the ischial spines were found to be the most important factors causing posterior rotation, which never occurs after the caput is visible. The anterior inclined planes, a wide pubic arch and the ischial spines were the factors promoting anterior rotation which frequently takes place after the head is quite plainly seen. This latter fact should warn one against too hasty interference on account of early failure of anterior rotation.



In 78.2 per cent the membranes did not rupture until the cervix was over half dilated (5 cm.). Premature rupture (before this diameter of dilatation was reached) occurred in 21.8 per cent. Contracted pelves were accompanied by 24.7 per cent premature rupture.

Spontaneous delivery occurred in 77.1 per cent of the entire series of occiput posteriors. When anterior rotation took place 98.8 per cent delivered themselves spontaneously as against 88.6 per cent when rotation occurred into the hollow of the sacrum.

The main point in the management of these cases is to give Nature a chance, as not over 10 per cent demand interference on account of the position. If maternal or foetal indications demand termination the procedure is simple. If anterior rotation has occurred a single cephalic application of forceps with extraction is all that is necessary. If the occiput remains posterior or transverse, the perineum is slowly dilated to admit the hand and the head is grasped between the thumb and four fingers and the occiput rotated anterior if possible, followed by a cephalic application of the forceps and extraction. In case manual rotation cannot be done (10 per cent) a Scanzoni double application of the forceps should be done. If rotation to the hollow of the sacrum has occurred and manual rotation to an anterior position not easily accomplished, a pelvic application of forceps is done and delivery accomplished easily and with but little more danger of perineal laceration than if the occiput were anterior.

Of the entire series 52 children or 8.17 per cent died during labor or within the first two weeks of life, which is but one per cent greater than for all cases. The death of only eleven of these 52 children can be attributed to the position and methods of treatment. When operative interference is necessary the mortality was increased by one per cent, but where no interference was necessary there was no increase in mortality. This goes to show that the more conservative the management the lower the mortality.

Of the 146 operative cases those demanding interference on account of the position totaled 47.94 per cent or 11.02 per cent of all the occiput posterior positions. The indications for operation due to position included delay in mid-pelvis, on the perineum and maternal exhaustion, although anterior rotation had already occurred in 18 of 88 cases.

Each case is given a definite test of labor before operative delivery is considered. This moderately prolongs the second stage, but as a result spontaneous labor is the rule. The following table, with the duration of the first and second stages in both multipara and primipara with regard to anterior and posterior rotation and operative interference, may be of interest:

ARITHMETIC AVERAGES FOR DURATION OF LABOR AND SECOND STAGE

Para	Rotation	Labor	No. of Cases	Duration of Labor	No. of Cases	Duration of 2d Stage
Primiparæ	Anterior	Spontaneous	186	18 hr. 27 m.	186	1 hr. 29 m.
Primiparæ	Anterior	Operative	55	29 hr. 11 m.	52	3 hr. 1 m.
Primiparæ	Posterior	Spontaneous	30	17 hr. 13 m.	30	1 hr. 30 m.
Primiparæ	Posterior	Operative	8	15 hr. 30 m.	8	3 hr. 17 m.
Multiparæ	Anterior	Spontaneous	221	12 hr. 00 m.	222	50 m.
Multiparæ	Anterior	Operative	16	21 hr. 23 m.	17	2 hr. 53 m.
Multiparæ	Posterior	Spontaneous	29	11 hr. 36 m.	29	1 hr. 4 m.
Multiparæ	Posterior	Operative	9	12 hr. 32 m.	9	2 hr. 33 m.

It was found that the type of pelvis (normal or contracted) did not influence the occurrence of the occiput posterior positions, which were within one per cent as frequent in a series of 4000 unselected cases as in the series of 635 occiput posteriors.

Conclusions as stated by Plass:

1. The frequency of occiput obliquely and directly posterior positions was 11.57 per cent in the series, although the actual percentage of cases originally in this position was probably considerably higher.

2. Rotation of the occiput into the hollow of the sacrum occurred in 14 per cent of the cases.

3. Three factors which tend to favor rotation into the hollow of the sacrum are poor flexion, small size of the head, and funnel pelvis. Contraction of the pelvic inlet favors anterior rotation.

4. The etiology of internal rotation is not satisfactory, but Hodge's theory of the ischial spines and inclined planes is the most acceptable.



5. Premature rupture of the membranes was not especially frequent when the occiput was posterior.

6. Spontaneous delivery was the usual outcome. The total operative incidence was 22.9 per cent, but in only 11.02 per cent was the position possibly accountable for the need of intervention.

7. There was no increased infant mortality because of the posterior position.

8. Labor was not prolonged, independently of whether the occiput rotated to the symphysis or into the hollow of the sacrum.

9. A contracted pelvis did not increase the incidence of the posterior positions.

10. There was no additional maternal morbidity or mortality.

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**Pharmacologic Superstitions.**—H. C. Wood, Jr., Philadelphia (*Journal A. M. A.*, April 8, 1916), says the length of time during which a drug has been employed in medicine furnishes no measure of its usefulness. Remedies whose reputation was sustained unabated for 2,000 years have been unable to bear the light of modern knowledge and have been thrown away and their names forgotten within fifty years. He mentions the various cures which have been recommended and abandoned, some of them after many years of use, as demonstrating this fact. The conclusions of chemists or physiologists as to the value of a remedy cannot be accepted until the tests have been sufficient to meet all these possible requirements. The effects of certain drugs in relieving symptoms are often most evident, but the question whether they are beneficial in disease cannot be answered so dogmatically. It seems to him fair to conclude that we are only justified in giving credence to claims of therapeutic usefulness when the known action of the drug permits a plausible explanation of its asserted benefits in harmony with the accepted theories of the disease and one supported by sufficient bedside corroboration. When the candidate drug can present no signs of its logic, and only vague and scanty clinical credentials, we are certainly justified in regarding its claims with suspicion. He reviews some traditional remedies by the standards set down by him, and condemns them, as a result, to the limbo of all forgotten superstitions. Among these are compound syrup of hypophosphites, and he gives apparently very good reasons for his unfavorable opinions, as well as those on lithia, sarsaparilla, Basham's mixture, ferric chlorid, opium as a local remedy and aromatic spirits of ammonia, which are the others specially mentioned.

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**Localized Osteospondylitis.**—W. C. Campbell, Memphis, Tenn. (*Journal A. M. A.*, Aug. 19, 1916), reports the observation of four cases of local osteospondylitis within the last three years, and gives brief histories. The cases do not differ essentially from multiple osteospondylitis except in their specially localized character. The etiology is probably the same. In no case was there any definite history of trauma, and he has not seen similar changes in the roentgenograms of undoubted traumatic spines.

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**NEUROLOGICAL REVIEWS**

By T. S. KEYSER, M. D., Cleveland

**Physiology of the Cerebellum**

*Cerebellar Abscess. Friesner and Braun. (See book reviews of this number).*

The functions of the cerebellum have been and, to a certain extent, are still not completely understood, due largely to the multitude of centers and fibers destroyed or stimulated by experimental lesions in animals or natural lesions in man. The close proximity of extraneous centers and nerve pathways which may also be involved in such lesions add to the difficulties of interpretation. However, the functions of the cerebellum are sufficiently understood so that it is usually possible to diagnose lesions of the cerebellum clinically.

Levandowsky's experiments on dogs, in which one-half of the cerebellum was removed, demonstrate the two most important cerebellar functions. Shortly after the operation, forced movements, consisting chiefly of curving of the trunk, torsion of the head, and extension of the extremities, occur. These movements occur spontaneously but are exaggerated by voluntary effort. There is no paralysis or true spasticity, so the phenomena are not due to involvement of the pyramidal tracts, but rather to an increased muscular tonicity. The conclusion, therefore, seems warranted that the cerebellum sends out a continuous stream of impulses which result in a condition of tonicity of the body musculature.

As the period of forced movements come to a close and the animal makes efforts to stand or walk, it becomes apparent that there is marked difficulty in holding the body erect and in maintaining equilibrium during progression. This is due to muscular inco-ordination, thus showing the second main function of the cerebellum to be the maintenance of muscular co-ordination. According to Levandowsky, equilibrium and co-ordination result from the combined afferent impulses from the muscles of the eyes, neck, trunk and extremities to the cerebellum, which transforms them into efferent impulses which maintain muscular tone and co-ordination and the equilibrium of the body.

"Equilibration is the result partly of conscious impressions and partly reflex activities. The reflex element is probably the more important of the two. The conscious elements which enter into the maintenance of equilibrium are vision, touch, and to a



lesser extent, hearing and smell. While our knowledge of circumferential space is gained, to a certain extent, from these sources, it is locomotion which really enables us to learn the details of space and it is by the translation of our bodies and limbs that we experience and remember the depths and distances that separate us from any definite point in any plane of the space surrounding us. Our knowledge of movement of the head is obtained through the intermediation of a special organ of orientation, viz., the static labyrinth."

Voluntary movements are performed as a result of efferent impulses from the motor area of the cerebral cortex which pass through the internal capsule and pyramidal tracts to the anterior horn cells and hence to the somatic musculature. However, these voluntary movements are much less important in the performance of orderly movements and the preservation of the body balance than are the reflex activities of the cerebellum.

Statotonus, that is, the muscular tone especially of the extensor muscles which maintains the body in an erect position against the force of gravity, is of cerebellar origin. Bing has found that destruction of Flechsig's and Gower's tracts in the cord caused a marked disturbance of statotonus. These tracts end almost exclusively in the vermis, thus indicating the vermis as the site of the statotonus. On the other hand, the mechanism for co-ordination is localized in the cerebellar hemispheres.

In the study of the effect of vestibular impulses upon movement of the limbs, Barany has evolved a theory of cerebellar localization. In the cerebral cortex each muscle is represented by a localized center, thus a small cortical lesion will cause a paralysis of a muscle or group of muscles. Barany believes that in the cerebellar cortex the somatic muscles are not represented individually but rather by "direction centers," that is, there is a subdivision according to joints and the position of joints. In each cerebellar hemisphere there are four direction centers; one for movement upwards, one for movements downwards, one for movements to the right, and one for movements to the left. In each center, each joint is represented; for example, there is a center for movement at the shoulder joint for abduction, another for adduction, another for forward movement, and another for backward movement.

When there is a destructive lesion, for example, in the center for movement inward at the shoulder joint, the arm of that side

will deviate outward. This deviation can be elicited only during voluntary motion, as when the arm is held extended, or better, when an attempt is made to point to some object. This deviation is more marked when the eyes are closed, for if the patient is aware of his deviation he makes a voluntary effort to correct it. When the semicircular canals are stimulated, the normal pointing deviation will be absent in any direction movement of a joint when there is a lesion in the cerebellum for that particular movement. When a large cerebellar lesion is present many joints will be involved in the deviation. When the lesion is small only one or two joints will be involved. When there is a spontaneous deviation but no loss of reaction movement in response to vestibular stimulation, the lesion is probably remote and causes impairment of function by pressure and not by actual destruction of the center.

The symptoms produced by lesions of cerebellum are due to disturbance of the two principal functions of the cerebellum, namely, co-ordination and muscular tone (including statotonus). Clinically the symptoms may be classified as follows:

1. Hypermetria.
2. Asynergy.
3. Adiadokokinesis.
4. Tremor.
5. Disturbances in writing.
6. Disturbances in speech.
7. Atony or hypotony (intermittent aesthenia).
8. Catalepsy.
9. Spontaneous deviations of the extremities and loss of reaction movements.
10. Spontaneous falling and loss of reaction movements of the trunk (due to lesions of the vermis).
11. Hemiparesis (due to hypotony).
12. Fixed attitudes of the head.
13. Disturbances in weight estimation.

Symptoms which are due to destruction of the fibre tracts between the vestibular muscles and the cerebellar nuclei are:

1. Nystagmus.
2. Enduring nystagmus.
3. Vertigo.
4. Vomiting.



## CLINICAL LABORATORY METHODS

By CLYDE L. CUMMER, M. D., Cleveland

**Spinal Fluid Syndromes of Nonne & Froin.** Hanes, writing in the *A. J. of Med. Sciences*, Vol. CLI, July, 1916, p. 66, directs attention to the significance of yellow color in spinal fluids. Froin's syndrome comprises the characteristics of yellow color, pleocytosis, and massive coagulability in the spinal fluid, while Nonne's syndrome is present when the spinal fluid shows a yellow color, no cells, and an excess of proteid. Subsequent observers have not been able to confirm Froin's findings of "numerous" cells. The dissociation of proteid excess and cellular increase is unusual, and xanthochromia is not a frequent occurrence, though Hanes has seen five instances in three years. Xanthochromia must be definitely distinguished from erythrochromia, where the color varies from bright red through varying shades of reddish brown to a dark yellow, due to the destruction of hemoglobin. With erythrochromia, the shade would vary at different punctures, while with xanthochromia the color is the same at each puncture. Then, too, with erythrochromia red blood cells or their shadows are apt to be numerous, and the fibrin content is low, showing radical differences from xanthochromatic fluids in both these points.

From a clinical standpoint, the clinical significance of obtaining a spinal fluid of yellow color, massive coagulation and high proteid content with or without high cell count is that it is always produced by a localized obliteration of the pia-arachnoid space. This space is divided into two portions, an upper one communicating freely with the pia-arachnoid of the brain and upper cord and a lower cul-de-sac. The author quotes Mix, who states that such a cul-de-sac may be isolated by a meningitis sealing the meninges at some point by a pachy-meningitis or a tumor exerting extradural pressure, or to an intradural tumor acting as a ball-valve. Hanes advances the theory that pleocytosis is present when the meninges are inflamed by the pathological process causing the compression.

**Quantitative Estimation of Dissolved Albumin in the Gastric Contents in the Diagnosis of Cancer of the Stomach.**—Friendenwald and Kieffer in the *A. J. of M. S.* (Vol. CLII,

No. 3, Sept. 1916, No. 534), report their observations on the value of this test, basing their conclusions on a series of 173 cases.

The method was first reported by Wolff and Junghaus, and bears their names. Their original observations had been confirmed by Smithies. The increase in albumin noted in many cases of gastric cancer is ascribed to the presence of a proteolytic enzyme formed by the growth of the cancer cells.

The test is performed by adding distilled water to filtered gastric contents and making a series of dilutions, 1/10, 1/20, 1/40, 1/100, 1/200, 1/400. To each tube containing these dilutions is added 1 c.c. of a precipitating solution, which is layered over the gastric contents. This is prepared as follows:

Phosphotungstic acid (pure), 3 c.c.

Hydrochloric acid (concentrated), 10 c.c.

Alcohol (96 per cent), 200 c.c.

Aquae dest. q.s.ad., 2000 c.c.

This is kept in a glass bottle with a rubber stopper.

A pearly white ring at the junction of the gastric juice with the reagent denotes a positive reaction. According to Wolff and Junghaus, positive reactions occurring in dilutions of 1/10, 1/20, 1/50 are present under normal conditions, and when present in dilutions of 1/100, 1/200 and 1/400, indicate malignancy.

Certain precautions are necessary in the application of the test. The secretion must be examined immediately after withdrawal. The test meal should be given on a completely empty stomach, since residues are frequently present. The patient should be warned against swallowing salivary or bronchial secretions while the meal is in the stomach.

Friedenwald and Kieffer discarded all cases where free HCl is absent, since they have found the test of no value with this condition present, and also discarded cases where blood is present.

Smithies examined 215 cases of gastric cancer and found a + result in 65%, a suspicious result in 13% and a negative result in 21%. He felt that when carefully performed it was a more constant finding than absent HCl, presence of lactic acid, and the glycytryptophan test, that it was rather more constant than the



tests for occult blood and the demonstration of organisms of the Boas-Oppler group or the increase in the formal index.

Other conditions showing positive reactions were peptic ulcer, 25%; chronic gastritis, 7%; simple achylas, 4%.

Friedenwald and Kieffer found that the test was positive in at least 83% of the cases of gastric cancers presenting an absence of free HCl. They felt that it is of great value as an aid in the diagnosis of certain forms of gastric carcinoma, and has its greatest value in the diagnosis between simple and malignant achylas.

---

**The Continuous Bath Relieves Pain.**—Another use has been found for the continuous neutral tub bath. At the large open-air hospital connected with the University of Cambridge, it was found that many of the patients arriving there had such terrible wounds that the pain made necessary such large and frequent doses of opiates that their progress was seriously retarded. In an attempt to remedy this, Colonel Griffiths now keeps these cases comfortably suspended in a tub through which water at 100° F. is continually running.

One case which is referred to had lain on a rubber mattress in a bath of this character for six weeks, and while for a period before entering the bath the uncontrollable pain from a laceration of the thigh was so great that the officer feared he would go insane, in the bath he had not felt anything worse than usual discomfort from long confinement in bed.

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**Protection Against Substitution.**—The extensive substitution and adulteration of aspirin in powder and especially in tablets have impelled the manufacturer of this preparation to introduce Bayer-Tablets of Aspirin (5 grs.), marked with the "Bayer Cross" as a protection against spurious imitations.

For many years aspirin was supplied in bulk to various reputable pharmaceutical concerns which made it into tablets sold by them under their firm names. Unfortunately, many unscrupulous persons, encouraged by the popularity of the drug, engaged in the manufacture and sale of fraudulent tablets which were largely bought by mercenary druggists, to whom profit signified more than reliability. Within the past year or two substitution and adulteration of aspirin on a large scale have been brought to light by the Bureau of Chemistry of the United States Government and the Health Boards of various large cities. Examination of specimens of some of the products seized by the United States authorities showed them to consist of calcium phosphate and starch, cream of tartar and citric acid, with some alum, or milk sugar, starch and calcium acid phosphate. Still other tablets that have been analyzed contained only a small fraction of the specified dose of aspirin, the rest being composed of inert material. For this reason no physician could be sure of the genuineness of aspirin tablets.

This has now been overcome by the introduction of Bayer-Tablets of Aspirin, which afford the physician and patient absolute protection against substitution.

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**PUBLIC HEALTH NEWS**

From Bureau of Health Education, Division of Health

DR. R. H. BISHOP, Jr., Commissioner

J. D. HALLIDAY, Chief of Bureau

**A Moment's Neglect**

Some 50,000 people in this country must live in darkness because a moment's neglect at the time of their birth resulted in "inflammation of the eyes."

Yet just the other day a physician dropped into the Health Department to inquire whether the law said anything about the use of a prophylactic in the eyes of a new born baby.

The law has quite a lot to say and very much to the point. Section 1248-5 of an Act passed by the General Assembly of Ohio, May 19, 1915, for the Prevention of Blindness From Inflammation of the Eyes of the New Born, says:

"It shall be the duty of physicians, midwives or other persons in attendance upon a case of childbirth, in a maternity home, hospital, public or charitable institution, in every infant immediately after birth, to use some prophylactic against inflammation of the eyes of the new born and to make record of the prophylactic used. It shall also be the duty of such institution to maintain such records of cases of inflammation of the eyes of the new born as the State Board of Health shall direct."

The law carefully explains that "any inflammation, swelling or redness in either one or both eyes of any infant, either apart from or together with any unnatural discharge from the eye or eyes of such infant, independent of the nature of the infection, if any, occurring any time within two weeks after the birth of such infant, shall be known as 'inflammation of the eyes of the new born.' "

Furthermore, the law provides that any physician, midwife, or attendant, within two weeks after childbirth, knowing the above defined condition to exist must report such fact within six



hours to the office of the Commissioner of Health. For this service they will receive a fee of 50 cents.

Violation of any of these provisions makes one liable to a fine of not less than \$50 nor more than \$100 for a first offense.

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### **"It's An Ill Wind——."**

Despite the ravages of infantile paralysis in New York City, Dr. Haven Emerson, Commissioner of Health, points out that the death rate in children under five years of age in New York City has been lower for June, July and August than for a number of years past.

This in spite of the fact that infantile paralysis was prevailing in epidemic form and had at the time of his report caused more than 1,600 deaths.

The reason for this lowered death rate in spite of the death toll from infantile paralysis is obvious.

Because of the prevalence of this disease, New York's health authorities have been laboring day and night and perhaps for the first time laboring with the earnest and wholehearted co-operation of all other city officials and the people themselves.

Parents have been unusually careful of their children and have taken every possible precaution to shield them from communicable disease of all kinds. Garbage and waste matter of every kind has been given careful attention and it may be said that the people of New York City have devoted their time and attention to the conservation of child life, with the result that aside from infantile paralysis babies and children have been made safer in New York City during the past few months than ever before.

The moral is that it only goes to show what any community can do when by intelligent effort and earnest co-operation it seeks to make the work of health officials effective and to practice the well-known principles of sanitation and prevention.

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# The Cleveland Medical Journal

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All remittances to the Journal should be made payable to The Cleveland Medical Journal.

Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

Original articles are accepted for publication by this Journal only with the distinct understanding that they are contributed solely to this Journal and will not be published elsewhere as original.

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## EDITORIAL

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### MT. SINAI HOSPITAL

On September 17 the new Mt. Sinai Hospital was dedicated. The completion of this latest hospital is another step in the relief of the institutional overcrowding of Cleveland. The building, overlooking Wade Park, is constructed on the pavillion plan and



is most complete. The present capacity is 155, to which 76 beds will be added when the Nurses' Home is built. The main administration building, which is four stories high, is two hundred and sixty-four feet long. Back of the main building are connecting pavillions containing wards, operating suite and labor rooms. The decorations and furnishings of the hospital were carefully worked out, the main idea being to escape from the usual coldness and forbidding nature of hospitals. Soft tinted walls, well selected furniture and attractive hangings make the private rooms pleasing. The same idea has been carried out in the wards—white being avoided as much as possible. The Children's Ward has well-executed mural paintings, with a delightful playroom for the convalescents. The medical organization comprises three divisions—(1) Surgery, including Gynecology and Obstetrics, and Orthopedics; (2) Medicine, including Pediatrics; (3) Specialties, Eye, Ear, Nose and Throat. Of the 155 beds over two-thirds are free. A sum for building a nurses' home has been given recently and with completion the capacity will be increased to two hundred and thirty-one. The service units and power buildings are built in anticipation of three hundred and fifty beds' capacity. A non-sectarian institution—dedicated to the community—Mt. Sinai Hospital receives the welcome of the physicians of Cleveland. The men who so wisely planned the building and who directed its policies are to be congratulated in the excellence of their performance.

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H. S. F.

THE TEXAS MEDICAL NEWS ENLARGED AND CONVERTED INTO A NEW, NATIONAL PUBLICATION,  
KNOWN AS MEDICAL INSURANCE AND  
HEALTH CONSERVATION

This journal is pleased to announce that the *Texas Medical News* celebrates its 25th anniversary by a change in policy, form and style, into a journal, national in character, to be known as *Medical Insurance and Health Conservation*.

After ten months of continuous effort looking to the establishment of this new publication all details have been arranged and the initial number of the new journal will appear with the October issue. The new publication has already received the individual approval of members comprising the Medical Section of the American Life Convention—an organization made up of some one hundred of the legal reserve life insurance companies, mainly of the central, southern and western States. It has also received the unanimous endorsement of the Medical Section of the National Fraternal Congress of America (a large majority of the fraternal life insurance companies of the United States and Canada being joined together into this organization), while many of the medical directors of the big eastern insurance companies of the country have expressed satisfaction at its initiation.

There is no publication devoted exclusively to medical insurance and health conservation topics, though there is undoubtedly a distinct and splendid field for one. In fact, the managing editor of the *Texas News*, when he first contemplated making this journal change, corresponded with the medical directors of all insurance companies of the North American continent, soliciting their opinions as to the advisability of starting such a monthly periodical, and he was given encouragement by a pleasingly large percentage among them, to perfect his journal plans and make the proposed change.

When it is realized that at least one-fifth of the physicians practising in the United States are either medical directors or local medical examiners for life insurance companies, it can be partially appreciated how vast a field for usefulness the medical insurance portion of the new magazine possesses. Likewise, when we consider the great advances that have been made, especially within the last few years, along health conservation lines, there is no question but that a journal of this character ought to appeal to all members of the profession, whether directly connected with insurance work or merely engaged in general practice.

And when one stops to consider that there is a united effort evidenced on the part of the medical directors of all insurance companies of the United States and Canada to entrust with their field examination work only such physicians as show themselves to be best qualified for it, it is not premature in judgment to predict that ere long preference in this line, in apportioning out medical examination work for the home companies, will be shown those physicians who keep themselves posted on the latest information in life insurance work. For this reason the medical insurance portion of our new publication should be carefully studied by all physicians interested in keeping themselves abreast of the times. And with the rapid strides being made along health conservation lines in every walk of life, that department of the journal given over to the study of investigation and research therein should appeal for patronage in a wellnigh universal manner, reaching out not only to the insurance companies but also to the profession and public at large.

We feel justly proud in being able to announce the (as yet incomplete) list of physicians and others who have already agreed to serve on the editorial staff of *Insurance Medicine and Health Conservation*:

H. H. Schroeder, Medical Director, Mutual Life Ins. Co., New York.



Charles T. Cutting, Medical Director, Pacific Coast Service Bureau, San Francisco.

F. W. Foxworthy, Medical Director, Indiana National Life Ins. Co. (Chairman, Medical Section, American Life Convention), Indianapolis.

F. L. B. Jenney, Medical Director, Federal Life Insurance Co. (Secretary, Medical Section, American Life Convention), Chicago.

Marionu Souchon, Medical Director, Pan-American Life Insurance Company, New Orleans.

John S. Turner, Medical Director, Southland Life Insurance Company, Dallas.

J. H. Florence, Medical Director, Great Southern Life Insurance Company, Houston.

Franklin B. Mead, Secretary and Actuary, Lincoln Life Insurance Company, Fort Wayne.

Lawrence M. Cathles, Secretary and Actuary, Southwestern Life Insurance Company, Dallas.

E. Franc Morrill, Supreme Physician, Royal Neighbors of America, Chicago.

Elizabeth M. Hooper, Medical Director, The Women's Benefit Association of The Maccabees, Port Huron.

Isabella Holdom, Medical Examiner, Ladies of the Modern Maccabees, Port Huron.

Ira W. Porter, Sovereign Physician, Woodmen of the World, Omaha.

F. Edmister, Supreme Medical Examiner, The Maccabees, Detroit.

George P. McConnell, Medical Examiner in Chief, Knights of Pythias, Indianapolis.

Charles F. Smith, Medical Director, Brotherhood of American Yeomen, Des Moines.

Tracy H. Clark, Medical Director, The National Union, Chicago.

W. J. Means, National Surgeon, American Insurance Union, Columbus.

Eugene Lyman Fisk, Director of Hygiene, Life Extension Institute, New York.

M. M. Smith, Medical Director, Modern Order of Praetorians, Dallas, Managing Editor.

Size of the new journal will be  $7\frac{3}{4}$  in. by  $10\frac{3}{4}$  in.—somewhat larger than that of *The News*, while reading matter will be run in two columns. Neither labor nor expense will be spared to make *Insurance Medicine and Health Conservation* worthy the patronage of the most fastidious among the profession. Subscription price to the journal will be two dollars per year—made necessary by the marked advance in the price of paper and the more expensive style and finish of the magazine. The journal starts out with a circulation twice that of *The News*, thanks to the liberal patronage bestowed upon it by various interested insurance companies, anxious to make its creation a success.

*The News'* management has sent out a personal letter to all present subscribers and advertisers and it is earnestly hoped that they will continue to lend the changed publication their support and elect to remain regular subscribers and patrons to the new journal.

Special articles have been promised the two departments of the new publication by a large number of leading physicians and insurance medical directors of the United States and Canada. Headquarters will remain as of old, at Dallas, Tex., and all communications should be addressed to the editor—Dr. M. M. Smith, Post Office Box 207, that city.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Pulmonary Tuberculosis:** Henry K. Mohler and Elmer H. Funk, in the September number of the *American Journal of the Medical Sciences*, consider the gastric function in pulmonary tuberculosis. The importance of such a study can scarcely be overestimated, when we consider the great frequency with which symptoms of disordered function occur, and particularly when we recall the important part which the digestion plays in the successful treatment of these patients. Einhorn found in 15 cases that normal acidity existed in 5, hyperacidity in 5, and diminished or absent acidity in 5 cases. Mohler and Funk's cases comprised 22 early and 25 advanced cases of pulmonary tuberculosis. From a study of these cases, their conclusions are: 1. That pulmonary tuberculosis causes a definite downward progression in both the motility and secretory function of the stomach from the very beginning of the disease. 2. That hyperacidity with symptoms occurring in early stages, and described by previous writers as common, is quite rare. That even hyperacidity without symptoms is rare—the type which corresponds to the normal “hypersecretory curve” of Rehfuess, existing in 40 to 50 per cent of normal individuals (Rehfuess) exists considerably less frequently in early tuberculosis patients. This would indicate that even in early tuberculosis patients changes in gastric functions are present. 3. That the so-called “pretubercular dyspepsias” of previous writers are misnamed, and that we believe they are in reality manifestations associated with definite tuberculous infection. 4. That we do not believe, on the basis of our studies, that there is an “irritative stage” giving hyperacidity in early tuberculosis. Our studies suggest that the gastric disorder is the result of the disease of the gastric mucosa. 5. That there is a distinct tendency toward the formation of a definite clinical syndrome known as delayed digestion, which becomes more and more associated with symptoms as the disease progresses. 6. We believe, with Einhorn, that the swallowing of tuberculous sputum plays a highly important part in the continuation and aggravation of disordered function. No less important are the gastrectasis and visceroptosis. 7. That the fractional estimation with the development of secretory curves is at present the most accurate method of studying the gastric function.

**Enuresis:** Harry Apfel, in the *New York Medical Journal* for September 2, summarizes the management of enuresis, as under four heads: 1. Instructions to mother. 2. A correct diet list. 3. Correct any existing pathological conditions. 4. Endeavor to obtain the co-operation of the child. 5. Drugs. (1) The mother should be told the proper time for the child's bath, play, exercise, and time of meals, and time for going to bed and rising. A well ventilated room, where the temperature should not exceed 65° F. The child should not be too comfortable in bed, and the bowels should be opened daily. (2) Give to the mother a written diet list, specifying the hour for each meal, eliminating spicy food as well as tea and coffee. No liquids after five P. M. If urine acid, eliminate strongly acid fruits and limit pastry and red meats. (3) Find that there are no pathological lesions of the central nervous system, no adherent clitoris, or long and narrow prepuce, no valvovaginitis or calculus in the bladder, nor hypertrophied tonsils, nor adenoids. If such exist, correct if possible. (4) Try to get aid of child. Give him a vessel and ask him to urinate in our presence and at the word of command make him stop and then start again; in other words, we train the power of control of the bladder sphincter. Tell the mother to repeat this once a day. Give the child a blank sheet of paper and on it note the days of the week, and have him keep his own record, noting *yes* or *no* alongside of the day. This makes an impression on his mind, especially if a prize is



offered for complete negative chart. (5) Of all drugs tried atropine still holds first place for efficacy, *if used properly*. Give one-half grain of atropine sulphate to one ounce of water and give drop doses for two days t. i. d.; then increase to two or three, watching for dilated pupils and flushed cheeks unless results are noted sooner. In anemic cases iron and nervous ones, the bromides. It is doubtful if thyroid extract is of much aid, except in cases of hypothyroidism.

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**Morphine:** The *Medical Record* for September 2 comments on two little-known facts about morphine. Every practising physician passes through two phases in his daily dealings with certain drugs, especially those remedies known as specifics and those which act upon some particular symptom, such as morphine does upon pain. The first phase is the gradual increase of faith in the medicine in question until he comes to accept it as practically infallible. And then sooner or later come unaccountable instances of failure and his divine confidence is rudely shaken. This is true of morphine. This powerful drug is duly hedged about with restrictions in the mind of the young practitioner, so that he hesitates to use it except it be absolutely necessary. Among the cases which now and then require opium are the worst ones of migraine. Theoretically, of course, we do not use opium in migraine and practically, thanks to the aniline derivatives, it is indeed rarely necessary. Once in a while, however, it is necessary to resort to this drug and very rarely it is not effectual. It is probably a conservative statement that every physician who has practised more than ten years has met with cases of migraine which did not yield to morphine. Now as to the explanation. Adler says that these cases are neurotic and the migraine is entirely psychic in origin. The affliction ministers to the neurotic's desire to dominate his environment by making all his family and friends anxious to wait on him, and he does not readily yield this advantage. If this is the true analysis of such a migraine, we can readily see why drugs, even morphine, are ineffectual. The only way to handle the situation is to educate the neurotic to perceive that he undergoes his suffering merely to subjugate others, and that there are far more effectual and socially useful ways of maximizing his ego-consciousness (as Adler puts it) than by making everyone around him miserable. So much for a psychical aspect of morphine. A physiological peculiarity connected with the drug has been recently reported by Doctors McGuire and Lichtenstein, who have observed approximately 12,000 cases of drug addiction in the Tombs prison during the past twelve years. They claim that many of the women opium habitués present a wonderful growth of hair. Not only is it long but thick and oily. It is common, says these physicians, to see female addicts with hair reaching to the ground. They explain this as being a purely nutritive process: opium and its derivatives stimulate the numerous sweat glands distributed to the scalp and the roots of the hair, increase the moisture of the scalp, and thus cause a growth of hair.

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**Veratrum:** The *Therapeutic Gazette* for August (via *Journal of Pharmacology and Exp. Therapeutics*) observes that Collins points out that the effects of veratrum on the circulatory system have been studied in a series of cases, which comprised pathological and normal individuals, among which were the following: Alcoholic cirrhosis, acute and chronic nephritis, heart-block, paroxysmal tachycardia, and those conclusions seem justified: 1. A slowing of the pulse and fall in blood-pressure occur with single therapeutic doses of 15 to 30 minims of the tincture veratrum album, and this occurs independently of such symptoms as nausea and vomiting (toxicity). 2. Large and repeated doses produce a slowing of the pulse in 100 per cent of the cases; a fall in both the systolic and diastolic blood-pressure in 73 per cent. The fall in blood-pressure is roughly proportional to the dose. 3. Repeated small or large

doses with short intervals between doses give rise to symptoms of toxicity (headache, nausea, vomiting, etc.). These effects are absent with small doses given at longer intervals. 4. To both therapeutic and toxic doses normal individuals respond with a fall in systolic and diastolic blood-pressure, and a slowing of the pulse. 5. Very little or no effect was observed in the following conditions: Arteriosclerosis, heart-block, paroxysmal tachycardia (one case of each). 6. The most marked effects of veratrum are observed in cases of hypertonus. 7. Using tincture of gentian under the same conditions as veratrum in the same individuals, no effects on the circulation were demonstrable.

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**Hypertension:** Henry Fannum Stoll, in the *Journal A. M. A.* for September 16, summarizes a series of "don'ts" to be observed in the management of hypertensive cardiovascular disease. 1. Don't tell the patient with moderate hypertension, few symptoms, and whose kidneys are functioning well to stop eating meat, or go on a milk diet. 2. Don't tell him to immediately give up his business; try to readjust his life so that unnecessary cardiovascular strain is reduced to a minimum. 3. Don't tell him his kidneys are "all right," just because his urine exhibits neither albumin nor casts. 4. Don't miss the significance of nocturnal polyuria, and a persistently low gravity. 5. Don't give nitroglycerin tablets to your patient the moment you discover that he has hypertension. Perhaps he requires a high pressure to get the blood through his small inelastic vessel. 6. Don't be satisfied with the systolic pressure—the diastolic is often of more significance. 7. Don't attribute the insomnia, nervousness and headaches in the middle-aged woman to the change—take her blood-pressure and examine her eye grounds. 8. Don't make a diagnosis of neurasthenia till after a blood-pressure estimation, and a Wassermann test. It may save subsequent embarrassment and even be of advantage to the patient. 9. Don't think you are doing your whole duty to your pregnant patient when you have examined her urine. She may have hypertension but no albumin today, and eclampsia next week. 10. Don't consider hypertension solely a condition of middle life; occasionally it is present in childhood. 11. Don't forget the old man's enlarged prostate. It may be the cause of the nephritic syndrome. 12. Don't hesitate to give digitalis when symptoms of cardiac failure are evident. It will not raise the blood-pressure. 13. Don't wait until the patient is waterlogged and the heart dilated before suspecting a failing myocardium. 14. Don't deny your sleepless, gasping patient whose course is nearly run the relief that only morphine will give. 15. Don't make a prognosis solely on the blood-pressure or phenolsulphonephthalein test. Each tells but part of the story. 16. Don't overlook the fact that cardiovascular disease is to a certain degree a familial condition and sometimes present in several generations; nor neglect to explain the importance of a yearly blood-pressure estimation of all the members of the family. 17. Don't exclude syphilis, especially a parental infection, as the cause of the hypertension solely because the Wassermann is negative. Study the family history, examine the brothers and sisters and your patient's children for signs of hereditary syphilis. 18. Don't fancy that the management of hypertension consists in watching a column of mercury, or that success is measured in millimeters.

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**Veratrine:** In the *American Journal of Clinical Medicine* for September, Wm. F. Waugh considers editorially the treatment of senile nephritis, and states as to the value of veratrine, that it has been his practice for years to regulate the vascular tension in this class of patients by a daily dose of veratrine, carefully gauged to the condition. He has given this to certain patients for a number of years, without missing a day, and has never known any bad results to follow. On the contrary, he believes that this use of veratrine has been the means of prolonging the



subject's life, in most instances, and this even to a point that at first he scarcely believed possible. By its use we increase elimination, while in relaxing the blood vessels we improve the nutrition of the entire body, in that a freer supply of nutritive material is thereby rendered possible. Veratrine has the reputation of increasing the output of waste matter. It does not appear that it increases metabolism, but simply aids in carrying out of the body the waste materials that otherwise would accumulate. It promotes the removal of these waste matters from the body, instead of allowing them to accumulate in the cells or intercellular spaces. As a rule, large doses of veratrine are not to be recommended. He has many times secured from  $\frac{1}{2}$  milligram, three times a day, all the benefits capable of resulting from this drug and more than from any other known medication. He thinks that all he should be justified in saying after a good many years use of thiosinamin and also of piperazin is that these remedies may in some cases nearly accomplish as much benefit as veratrine gives. He has had no experience with Nascher's remedy for arteriosclerosis, which is amorphous phosphorus in 1 grain doses 3 times a day. He fears this agent might arouse undesirable sexual activity and prefers less objectionable remedies.

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**Corpora Lutea:** The July number of *American Medicine* (from *Therapeutic Notes*) presents a concise resumé of the facts recently established as to the function and therapeutic action of corpora lutea. The human ovary has an internal secretion which controls menstruation, and maintains pregnancy during the early months. The corpus luteum is the structure concerned and seemingly the source of the internal secretion. The corpus luteum of pregnancy is more stable than that of ovulation. The corpus luteum has selective action on the endometrium, and prepares the uterine mucosa for the reception of the ovum. The development of the corpus luteum is synchronous with the onset of menstruation. A relation exists between the corpus luteum and the other internal secretory structures of the body. Removal of the corpus luteum causes cessation of the menstrual function. Animal corpora lutea, when administered by the mouth in average doses, are nontoxic. Those who have employed corpus luteum (the fresh yellow body), or a desiccated extract of it, using proper discretion, have found it to be much more potent than gross ovarian preparations, and its administration in suitable cases is followed by gratifying and striking results. The particular conditions for which extracts of the corpus luteum will be found serviceable are: 1st. Functional amenorrhoea or scanty menstruation. 2nd. Dysmenorrhoea of ovarian origin. 3rd. Manifestations of physiologic or artificial menopause, such as nervous or congestive disturbances of reflex origin (hot flashes, psychoneuroses, etc.). 4th. Neurasthenic symptoms, during menstrual life. 5th. Sterility not due to pyogenic infection or mechanical obstruction. 6th. When the function of one ovary is impaired, or one ovary has been removed, and the compensatory activity of the other is insufficient. Repeated abortions not due to disease or mechanical factors. 8th. Hyperemesis in the early months of pregnancy.

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### NEW AND NONOFFICIAL REMEDIES

**Solution of Hypophysis—Squibb**—A sterilized aqueous solution of the water-soluble active principles of the posterior lobe of the pituitary bodies of cattle, free from chemical preservatives and physiologically standardized. It has the properties of the pituitary gland, as described in *New and Nonofficial Remedies*, 1916. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, September 2, 1916, p. 745).

**Benzidine.**—In medical practice benzidine is used for the detection of occult blood. In the presence of hydrogen peroxid and acetic acid, benzidine is changed to a deep purple compound by the action of blood. The test is said to detect blood in a dilution of 1 in 300,000.

**Benzidine—Merck (for Blood Ttst).**—This compiles with the standards prescribed for benzidine, N. N. R. Merck & Co., New York (*Jour. A. M. A.*, September 16, 1916, p. 879).

**Occult Blood Test (Dudley Roberts).**—This consists of tablets each containing 5 grains of a trituration of benzidine, 1 part, and sodium perborate, 20 parts, and glacial acetic acid (supplied in boxes containing 100 tablets in vials, and a bottle of glacial acetic acid). A tablet is treated with a weak solution of the material to be tested and a drop of acetic acid added, a greenish blue color indicates the presence of blood. E. R. Squibbs & Sons, New York (*Jour. A. M. A.*, September 16, 1916, p. 879).

**Mercurial Oil.**—A mixture containing from 40 to 50 per cent of metallic mercury in an oily base. The mercury is in a finely divided state and of a consistence which permits its intramuscular injection by means of a proper syringe at room temperature. The degree of subdivision of the mercury should be indicated for each brand of this product. Mercurial oil is used as a means of obtaining the systemic effects of mercury. Cumulative effects should be carefully watched for.

**Mercurial Oil—National Pathological Laboratory.**—A mixture of equal weights of mercury and lanolin obtained by triturating the constituents until mercury globules are no longer macroscopically visible. It is marketed in graduated syringes ready for use and containing 2 Cc. National Pathological Laboratories, Chicago (*Jour. A. M. A.*, September 23, 1916, p. 953).

**Liquid Petrolatum—Squibb, Heavy (California).**—It is made from Californian petroleum and is claimed to be composed chiefly of hydrocarbons of the naphthene series. A brand of liquid petrolatum complying with the U. S. P. standards for liquid petrolatum and claimed to be superior to liquid petrolatum, U. S. P. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

**Thromboplastin—Squibb.**—A solution of brain extract complying with the standards for solution brain extract, N. N. R. It is marketed in 20 Cc. vials. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

**Chlorazene.**—Chlorazene (sodium para-toluenesulphoramine) is an active germicide acting much like hypochlorites, but being less irritating. Like the hypochlorites it has the advantage over mercuric chloride, zinc chloride, etc., in that it does not coagulate or precipitate proteins, such as blood serum. Chlorazene is reported to be practically non-toxic. The Abbott Laboratories, Chicago, Ill. (*Jour. A. M. A.*, Sept. 30, 1916, p. 1021).

During September the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories:

Chlorazene.

Chlorazene Tablets, 4.6 grains.

Merck & Company:

Benzidine—Merck (for Blood Test).

E. R. Squibb & Sons:

Thromboplastin—Squibb.

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## The Academy of Medicine of Cleveland

### COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine held Tuesday, September 12, 1916, at the University Club, the following members were present: Drs. Sanford, Follansbee, Bernstein, Moorehouse, R. E. Skeel, J. J. Thomas, Updegraff, Geib, Tuckerman and by invitation, Dr. Dexter.

The minutes of the last meeting were read and approved.

Dr. Updegraff presided in the absence of Dr. Bruner, who was unable to attend because of sickness.

On motion the application of Dr. H. E. Friedman was ordered published.

On motion Dr. E. P. Crowe was reinstated to membership to become effective upon payment of \$5.00 back dues.

The Secretary reported that Dr. Bruner had requested the appointment of Dr. Dexter to take the place of Dr. Taylor as chairman of the program committee, Dr. Taylor being detained by medical duties with the troops in Texas and uncertain as to when he would be relieved.

On motion the appointment was approved.

On motion the Secretary was directed to arrange with Mr. Harding for installation of new call phones at the Medical Library.

Dr. Sanford reported for the committee on Arrangements of the Ohio State Medical Association, stating that a refund disbursement of 7 per cent of their subscriptions would be made to members who had contributed to the fund of the committee.

The Secretary reported Dr. C. E. Ford's resignation as chairman of the legislative committee.

On motion of Dr. Fred. C. Herrick was appointed to the vacancy.

On motion the civic committee was requested to investigate the lack of hospital beds for tuberculosis patients and to report recommendations.

On motion the civic committee was asked to make an investigation of medical fees with a view to determining what are the customary minimum fees and whether, considering the increased cost of things generally, these fees are adequate.

On motion the civic committee was asked to inquire into the lack of facilities for treating narcotic patients, and into certain difficulties arising therefrom.

On motion the legislative committee was asked to look over the candidates for the state legislature and to report if there be any who should be particularly supported by the profession.

Dr. Updegraff reported an attendance of 113 at the Annual Outing held August 30th. He attributed the marked success of the occasion in great part of the exceptional opportunities afforded at the Cleveland Yacht Club for variety of entertainment.

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## BOOK REVIEWS

**Cerebellar Abscess.** By Isidore Freisner, Adjunct Professor of Otology, Post Graduate Medical School, New York; Alfred Braun, Adjunct Professor of Laryngology, New York Polyclinic. Paul B. Hoeber, New York. June, 1916, p. 186, with 10 Full Page Plates and 16 Illustrations in Text. Price, \$2.50 net.

In the preface of the book the authors state that 98 per cent of the cerebellar abscesses are otitic in origin, therefore, the diagnosis and treatment of this complication are almost solely the province of the otological surgeon.

The book is divided into five chapters dealing with the anatomy of the cerebellum, physiology of the cerebellum, etiology and pathology of the cerebellar abscess, symptoms of cerebellar abscess, and prognosis and treatment of cerebellar abscess.

The chapters on the anatomy and physiology are especially to be commended, not only from the standpoint of the otologist but also as a source of valuable diagnostic information for the general practitioner, who desires a concise description of the functions of the cerebellum.

T. S. K.

## ACKNOWLEDGMENTS

**Universal Military Education and Service.** The Swiss System for the United States. By Lucien Howe, Fellow of the Royal Society of Medicine; Member of the Royal College of Surgeons; Professor Emeritus of Ophthalmology. G. P. Putnam's Sons, New York and London, The Knickerbocker Press, 1916. Price, \$1.00 net.

**Physiological Chemistry.**—A Text-book and Manual for Students. By Albert P. Mathews, Ph. D., Professor of Physiological Chemistry, the University of Chicago. Second Edition. Illustrated. William Wood & Company, New York, 1916. Price, \$4.25 net.

**How to Live.** Rules for Healthful Living Based on Modern Science. Authorized by and Prepared in Collaboration with the Hygiene Reference Board of the Life Extension Institute, Inc. By Irving Fisher, Chairman, Professor of Political Economy, Yale University; and Eugene Lyman Fiske, M. D., Director of Hygiene of the Institute. Eighth Edition. Funk & Wagnalls Company, New York and London. Price, \$1.00 net.

**Abdominal Operations.**—J. W. Keefe, Providence, R. I. (*Journal A. M. A.*, Aug. 19, 1916), goes over the subject and reviews cases of the accident of leaving the sponges or other articles in the abdominal cavity. He reports two cases, in one of which he was present at the operation and the loss was discovered twenty-six hours later, the wound was reopened and the sponge removed, the patient making an uneventful recovery. The only way to prevent sponges being left during an operation is to place the sponge not wholly within the abdominal cavity. He refers to the experiments of Yandell Henderson, and his observations on acapnia, that is, exhalation of carbon dioxid from the viscera when they are exposed to the air, causing a loss of tonus. He says that during the past ten years he has been using in these abdominal operations a roll of sheet rubber, about 8 inches wide and 18 feet long and about the thickness of rubber bandages. When the abdominal cavity is opened, folds of this rubber are tucked into the wound, walling off the intestine from the field of operation and preventing the exposure of the viscera to the air. The use of this rubber roll prevents the loss of carbon dioxid of the blood and thereby lessens shock. It is moist and smooth and does not injure the peritoneum, thus preventing post-operative adhesions.



## MEDICAL NEWS

**Progress Shown in Mansfield, Ohio.**—On May 24th the Mansfield, Ohio, Board of Education voted to open in September two classes for the conservation of vision. Two teachers were immediately selected and sent to Cleveland to spend the remainder of the school year observing the work done in that city. The establishment of these classes is the direct result of the survey of the eye conditions of the Mansfield school children conducted by Miss L. C. Ottman for the Ohio State Commission for the Blind.

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**Baby Week In Cincinnati.**—Cincinnati's expression in the nation-wide observance of "Baby Week" in June was a good demonstration of co-operation and unity of purpose for the prevention of infant mortality. Representatives from the Academy of Medicine, the Woman's Club, the Visiting Nurses' Association, Woman's City Club, the Jewish Infant Welfare Circle, and the Children's Department of the Ohio-Miami Clinic took an active part in the movement. Many department stores and merchants participated with fine window displays for the occasion. Four hundred and nineteen children between the ages of one and four years were examined by the district physicians, assisted by a complement of nurses from local hospitals. The exhibit loaned by the National Committee for the Prevention of Blindness, as well as the various charts prepared by the Children's Department of the Ohio-Miami Clinic, the Infant Welfare Circle, and the Health Department, were prominently displayed and attracted much attention.

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**Work for the Blind in Cleveland.**—The Cleveland School of Education during the summer conducted a special course to meet the need for training of day school teachers in classes for the blind and conservation of vision classes. Supervisor R. B. Irwin was in charge. It is highly probable that the course will be repeated next year, as many students have expressed a desire to take this course another summer.

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It is interesting to note the increased number of physicians and midwives in Cleveland who report ophthalmia cases. From January 1, 1916, to September 1, 1916, there have been 857 new eye cases. Out of this number 495 were under one month of age. One hundred and seventy-seven smears were taken, 21 of which were positive. In the month of April 19 new cases were received through the birth registration.

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Since May, 1915, the adult eye work has increased from 1,071 cases to 1,492. At the present time the adult eye nurse is carrying 91 trachoma cases, which require constant follow-up work.

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In September the Board of Education opened a special school for trachoma children who have been excluded from the public schools. Some of these children have not been in school for one year.

**The Regular Meeting of the Stark County Medical Society** was held in the Massillon City Hall, Tuesday, September 19th, 1916, at 1:15 P. M. sharp.

PROGRAM

PAPER

Some of the Sequelae of Tonsilitis, Dr. J. B. Dougherty, New Berlin

PAPER

Thoracic and Abdominal Roentgenology—its present status, with Plate Demonstration, Dr. J. E. Shorb, Canton.

RESOLUTION

It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate services to his patient or which interfere with reasonable competition among the physician-individual physician, and lowers the dignity of the profession.

To do this is detrimental to the public and to the  
Dr. G. F. Zinninger, President, Canton; Dr. L. A. Buchman, Sec'y-Treas., Canton; Dr. F. W. Gavin, Cor. Sec'y, Canton; Committeeman Medical Defense, Dr. D. S. Gardner, Massillon.

**New York Skin and Cancer Hospital, Second Avenue, Cor. 19th Street.**—The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley, assisted by the attending staff, will give the eighteenth series of clinical lectures on diseases of the skin, in the Out-Patient Hall of the hospital, on Wednesday afternoons, beginning November 1st, 1916, at 4:15 o'clock. The Lectures will be free to the medical profession, on the presentation of their professional cards.

**Ohio Public Health Federation.**—In preparing for the coming session of the General Assembly, which is expected to develop much new legislation of vital interest to public health and medical practice, the co-operating organizations which two years ago maintained the Ohio Public Health Federation, have effected a reorganization of that body along broader lines. At meetings held in September the executive council, which includes one accredited representative from each of the seven contributing organizations, adopted new articles of agreement and new regulations to govern its procedure.

The essential features of the plan which was so successful two years ago are of course retained. It was decided, however, to give the organization more permanent form by electing a set of State officers in addition to the executive council. A committee is now canvassing the field with a view of securing a business man as president of the federation, and other laymen prominent in the State for the vice-presidencies. G. V. Sheridan, Executive Secretary of the State Association, has been elected secretary of the federation. Under the old plan he served as assistant secretary of the executive council.

Dr. W. B. Carpenter, representing the Homeopathic Medical Society of Ohio, was re-elected chairman of the executive council, in which body is lodged the active direction of the association's affairs. Dr. Homer C. Brown, representing the Ohio State Dental Society, was elected vice-chairman; Dr. Robert G. Paterson, secretary of the Ohio Society for the Prevention of Tuberculosis, was elected secretary of the council, and Professor Edward Spease, Ohio State University, representing the Ohio State Pharmaceutical Association, was elected treasurer of both the council and the general federation. The other members of the council



are Dr. J. H. J. Upham, representing the Ohio State Medical Association; Dr. F. O. Williams, representing the Ohio Eclectic Medical Association; Dr. David White, dean of Veterinary Medical College, O. S. U., who represents the Ohio Veterinary Medical Association.

Following last year's plan, various State departments interested in public health problems will be asked to appoint accredited representatives to the council. They have signified their intention of doing so.

Prospects for the federation's work in dealing with legislation this winter are exceedingly bright. All of the co-operating organizations have reaffirmed their approval of the movement, and promised the necessary financial support. Funds for the work are raised by an assessment of not to exceed fifteen cents per capita on the membership of each of the co-operating organizations. There is a considerable balance in the treasury, so that the assessment this year will be light.

The field of the federation was materially extended by the acceptance into membership of the new Ohio Hospital Association, with about 160 members, and the Ohio State Association of Graduate Nurses, which has a membership of over 3,000. This extends the total membership of the federation to more than 12,000.

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**Medical Care of the Native Alaskan.**—The problem of caring for the natives of Alaska is among the most difficult matters which confront the government in its relations with the aboriginal tribes.

There is no central point in Alaska, Seattle being the trading center of the Territory.

These people are scattered along a waterfront of more than 5000 miles. They live in small villages. They are still influenced by the superstitions which have come down to them from the centuries. They hide, rather than seek relief for their ailments, believing that there is some divine retribution in misfortune.

Secretary Lane of the Interior Department, who personally knows every part of Alaska, has given tender consideration to the needs of the native Alaskan, and great improvement has taken place in the care of these people, especially during the past two years.

Syphilis and tuberculosis, here as elsewhere, have wrought sad havoc with the primitive people.

The editor of the *Medical Sentinel*, in a trip just completed in Alaska, was forcibly impressed by the special interest now being shown by the government in the medical side of care for the natives.

At Juneau, Dr. Douglas Brown, a recent arrival, is in charge of a splendid native hospital just completed by the Interior Department, which looks after fourteen near-by villages. Dr. Brown serves under the Educational Division of the Interior Department, is a civil service employe and was for some years with Colonel Gorgas on the Panama Zone.

At Haines a special hospital is soon to be erected for tuberculosis cases, and soon a colony with every modern equipment will be in operation.

In other portions of Alaska, seven or eight physicians have been put in charge of the medical Indian service, and three other small native hospitals are already maintained by the government in the Territory.

An attempt is now being made by Secretary Lane to employ teachers in the Educational Division, for stations where no doctors are located, who are also trained nurses. These teachers have some special training for emergency medical work, are given a medical and surgical equipment of simple character, and provided with proper instructions for the service along medical lines. As fast as appropriations can be secured, district zones are being organized comprising a neighborhood of native villages,

for which a general hospital and a competent physician is supplied.

The insane native has the benefit of care outside Alaska, where, in a milder climate, the percentage of recoveries is very large. The tubercular insane live in a separate department, at Portland, Oregon, where they enjoy every qualification for modern treatment.

The Educational Department in these more recent departures, seeks, among other things, to educate the natives as to the prevention of tubercular infection. Also as to the dangers of syphilis, its possible cure under appropriate treatment, thereby effecting the lowest possible evil to the living, as well as to the unborn progeny of the native races of Alaska.—*Medical Sentinel*.

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**American Fair Play.**—While the people of the United States have been sending thirty million dollars' worth of relief to Europe and Turkey, two hundred thousand women and children in Albania have died of starvation.

While each woman and child in Belgium has had plenty to eat, women and children in Albania have gnawed at the carcasses of dead horses in the streets.

William Willard Howard, of New York, who has returned from his third trip to this hunger zone of Europe, predicts that the entire population of Albania will die of famine and pestilence unless helped. He says that in Albania corn is fifty dollars a bushel, flour eighty dollars a sack, and macaroni five dollars a pound.

"The tragedy of Albania," says Mr. Howard, "is that a nation is dying of hunger, while the people of the United States, laden with gifts for the rest of Europe and for Turkey, pass by on the other side.

"Thirty millions of dollars have been given by the people of the United States for relief work of various kinds in Belgium, Poland, Armenia, Syria and the warring countries of Europe, while two hundred thousand women and children in Southeastern Europe have starved to death unheeded and uncared for. Not one woman or child has died of hunger in Belgium; two hundred thousand in Albania.

"Is it fair—is it human—that the innocent women and children of Albania, who never did anyone any harm, should be trampled under foot and left to perish, at a time when all others are fed?

"Is this American fair play?

"I have appealed for help in high places. I have begged a crust of bread of those who have given millions to Belgium, Poland, Armenia and Syria. I have begged in vain.

"The Albanians are as much entitled to sympathy and help as others. They have not taken part in the war. They fed and sheltered the refugees from Servia, even with the last measure of corn that the famine-stricken villages possessed. They have not done any wrong; yet armies have swept over the country, taking what could be found to take, leaving to the starving women and children only the carcasses of dead horses in the streets.

"I ask only American fair play for the famished children of Albania. I ask of all fair-minded men and women in the United States: Why should the Albanians—three hundred thousand of whom are Christians—be left to starve, while we press forward, in generous rivalry, to feed the others? The Albanians are more numerous than the Armenians; yet we feed the Armenians and let the Albanians starve.

"Having appealed to deaf ears in high places, I now appeal to the plain people—to the fair-minded men and women who would not let even a dog starve to death, no matter what his breed. I want to go back to



Albania with a shipload of food. I have arranged for a ship—a new American ship, just launched and fitted for sea. The ship is ready and waiting.

“A number of distinguished gentlemen in New York—mostly clergymen and editors of newspapers—will co-operate in an appeal for a relief cargo for the ship. The treasurer selected to receive contributions is the Rev. Frederick Lynch, D. D., editor of *The Christian Work* and secretary of the Carnegie Church Peace Union. Contributions in any amount—from the price of a loaf of bread upward—may be sent to the Balkan Relief Fund, 70 Fifth avenue, New York City.”

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**American Medical Corps Examination.**—The Surgeon General of the Army announces that preliminary examination for appointment of first lieutenants in the Army Medical Corps will be held early in January, 1917, at points to be hereafter designated.

Full information concerning this examination can be procured upon application to the “Surgeon General, U. S. Army, Washington, D. C.” The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, between 22 and 32 years of age at time of receiving commission in Medical Corps, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, of good moral character and habits, and shall have had at least one year’s hospital training as an interne, after graduation. Applicants who are serving this post-graduate internship and can complete same before October 1, 1917, can take the January examination. The examination will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applicants are received, in order to lessen the travelling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examination, applications should be forwarded without delay to the Surgeon General of the Army.

There are at present two hundred and twenty-eight vacancies in the Medical Corps of the Army.

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**Buttermilk as a Gargle.**—Moffit (*Penn. Med. Jour.*, Oct., 1915) suggests the use of fresh buttermilk as a gargle in patients who have had diphtheria but in whose throats cultures of the diphtheria bacillus were present after all other manifestations of the disease had disappeared. The plain buttermilk was used five or six times a day and from his experience with nine cases, Moffit believed that the diphtheria organisms will be displaced entirely within three days, while pure cultures of the lactic acid bacillus will be found on the swab.

This is in harmony with a suggestion recently made (*Amer. Medicine*, Dec., 1915, p. 926) to use cultures of the bacillus bulgaricus for the same purpose. Swabbing the throat (or gargling) two or three times with the commercial liquid cultures of this organism is sufficient to render the throat free from dangerous organisms and to facilitate the releasing of the patient from quarantine. It was also suggested that this same procedure might be equally useful in diphtheria.

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# The Cleveland Medical Journal

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## TRANSPLANTATION OF THE URETERS—REPORT OF CASES\*

By WILLIAM E. LOWER, M. D., Cleveland

Fellow of the American College of Surgeons.

The occasions when transplantation of the ureters seems advisable do not occur very often, but they arise a sufficient number of times so that everyone doing genito-urinary surgery should acquaint himself with the best methods which have thus far been devised for accomplishing this result.

Transplantation of the ureters may be advised in the following cases: (1) Cases of tumor of the bladder, so extensive that removal of the growth from within the bladder is impossible, which because of the constant flow of urine over the ulcerated areas produces such great discomfort that the patient's existence is almost intolerable; (2) cases in which a more radical operation, like cystectomy, should be done; (3) cases of exstrophy of the bladder; (4) cases of traumatic injury to the ureter, often at time of surgical operation upon the pelvic organs; and (5) cases of vesico-vaginal fistula, which follow removal of malignant growths of the uterus and which cannot be closed.

The anatomic structures to which ureters are generally transplanted are the skin, either of the loin or of the groin, and some part of the intestinal tract, usually the sigmoid or the rectum.

If the ureters are transplanted into the skin, it is necessary to make use of some urinary receptacle to catch the urine. While this is not an unsurmountable difficulty, nevertheless a considerable amount of personal attention is required to keep the patient comfortable. A very serviceable device, suggested by Peterkin, of Seattle, is shown in the illustration. The best place, probably,

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\*Given before the Pathological Section of the Cleveland Academy of Medicine, November 3, 1916.



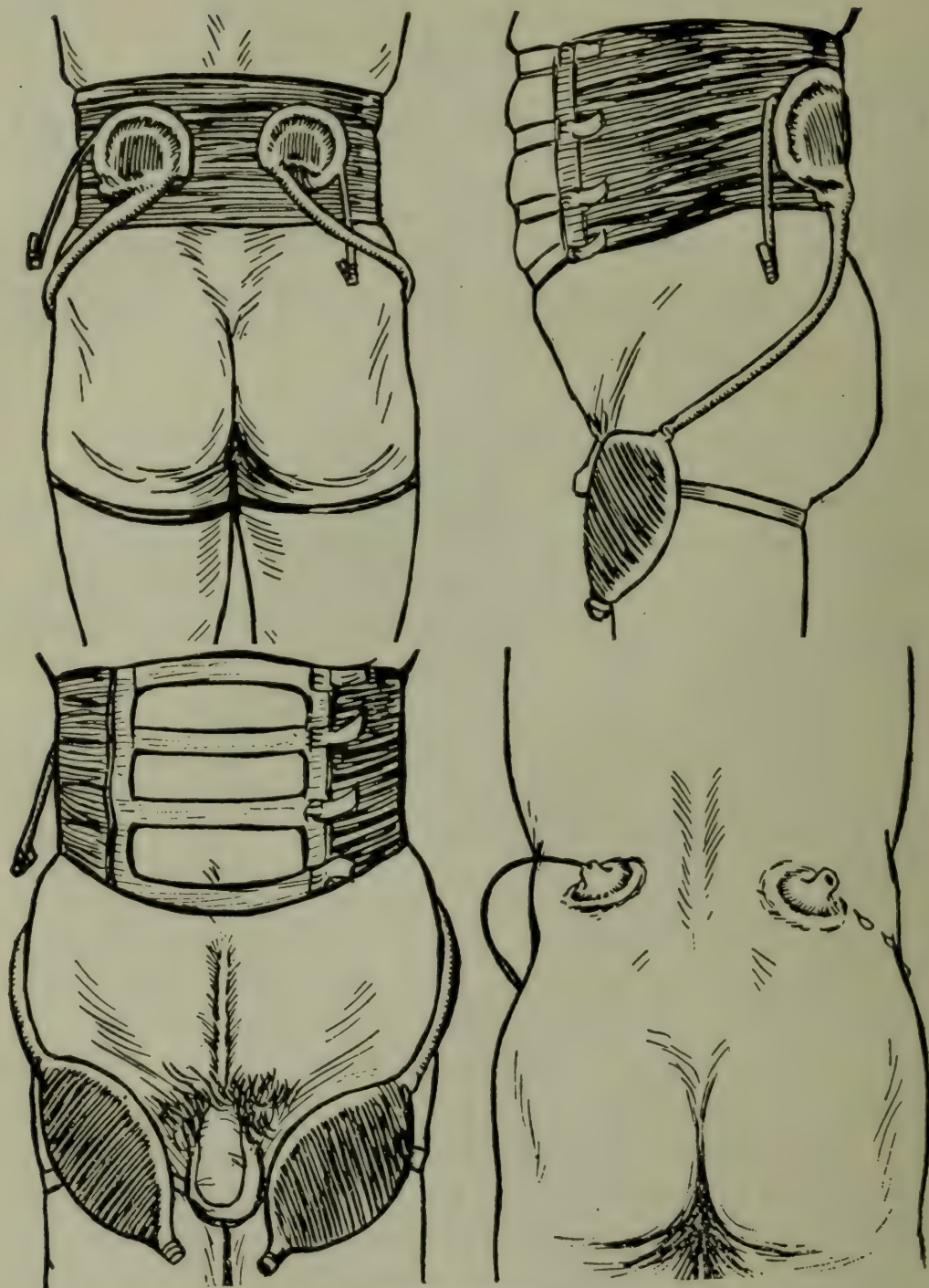


ILLUSTRATION I

Urinary receptacle devised by Peterkin, for cases of transplantation of the ureters into the loin. (Reproduced with permission of *Surgery, Gynecology and Obstetrics*.)

to transplant into the skin is at the loin, because a firm-fitting belt can be placed around the body, making the pressure on the rubber rings about the ureters sufficient to obviate any leakage of urine over the skin.

The transplantation of the ureters into the rectum carries with it the danger of an ascending infection, but this, I think,

has been very greatly reduced by the method so well worked out by Coffey, of Portland. The Coffey technic consists of "incorporating the ureters into the large bowel by the division of the

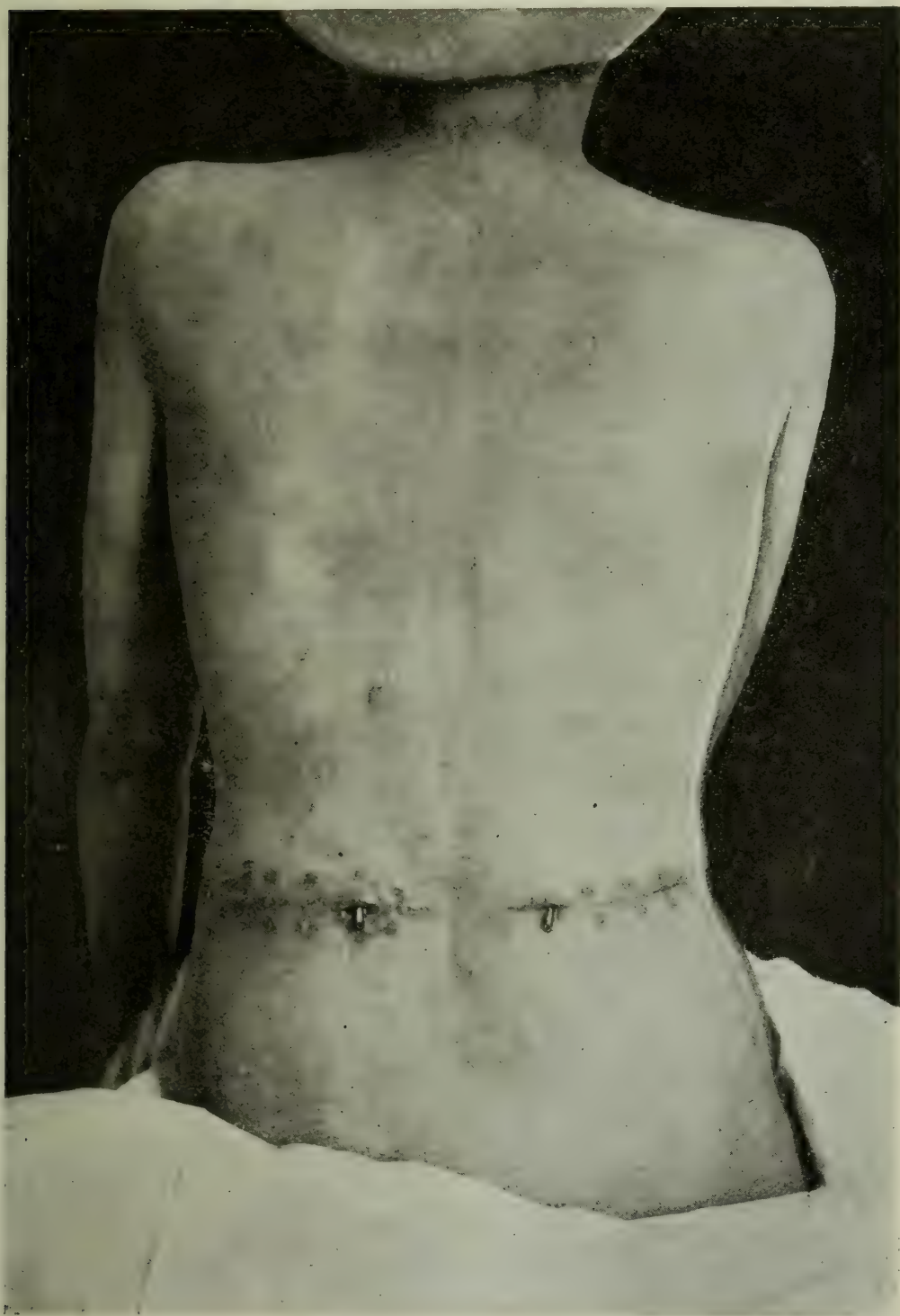


ILLUSTRATION II

Transplantation of ureters into the loin. (Case 1.)



peritoneum and the muscularis." A valve is thus secured very similar to the ureteric valve in the bladder.



ILLUSTRATION III

Exstrophy of the bladder in boy nine years old. (Case 2.)

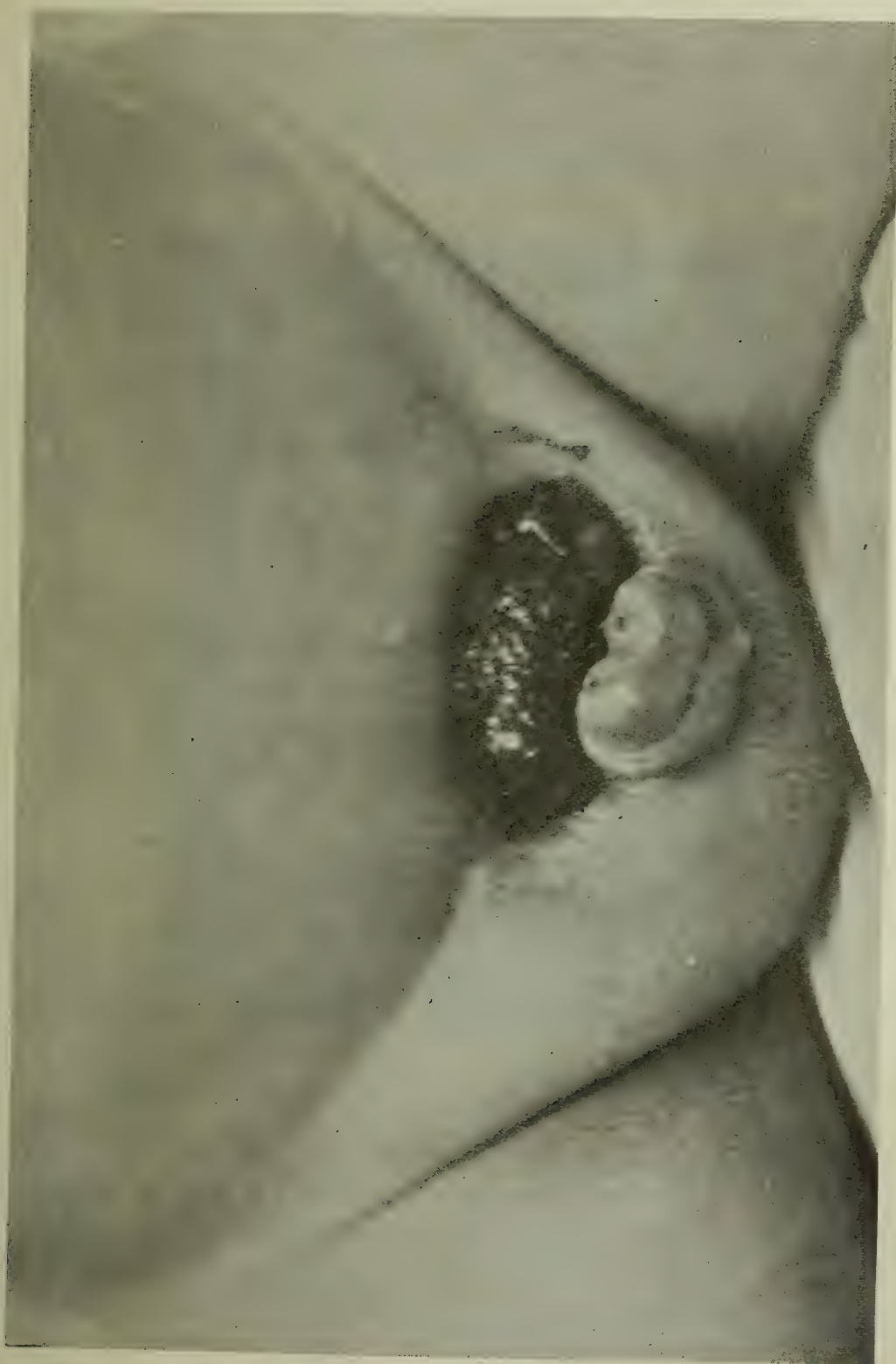


ILLUSTRATION IV: Exstrophy of the bladder, near view. (Case 2.)



The method of Maydl, of transplanting the base of the bladder in order to conserve the normal valves of the ureters, has been recommended by many, but personally I prefer to transplant the ureters separately and at different times. The second ureter is transplanted at an interval of from ten days to two weeks after the first, so that we know that the kidney is functioning before the second operation is undertaken.



ILLUSTRATION V

Case of exstrophy of the bladder, after transplantation of the ureters into the rectum, and a plastic operation. (Case 2.)

I append herewith the report of a few cases:

My first case was a woman, aged forty-seven, who had a history of several unsuccessful attempts to repair a vesico-vaginal fistula, which had resulted from the removal of a malignant uterus. The transplantation of the ureters into the loin brought her relief from the urinary incontinence.

The second, a boy nine years of age, had exstrophy of the bladder. The ureters were transplanted into the rectum, with

an interval of about two weeks between the two operations. At a still later time, a plastic operation made the boy more comfortable.

The third case came into the hospital with carcinoma of the bladder, which was inoperable intravesically. The ureters were transplanted into the rectum at different times, and later the bladder was completely extirpated. Six weeks after operation,



ILLUSTRATION VI

Postoperative scar of Case 3.

the man was in good health, had regained practically all the weight he had lost, and had no special discomfort.

In none of these cases was there any resulting incontinence. After a few months, the patients are able to regulate the number of liquid stools and suffer neither inconvenience nor frequency.

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## DISEASES OF THE COLLICULUS SEMINALIS\*

By ABRAHAM STRAUSS, M. D., Cleveland.

Since Lallemand first reported the treatment of an area at the orifices of the ejaculatory ducts instruments and technique have developed so that today there are many reports of cases treated for disease of the colliculus seminalis and of the varied results therefrom. There are but few clear statements of etiology and pathological anatomy of this part of the prostatic urethra and all of these are not in accord.

In 1886 Oberlaender first mentioned the relation of chronic posterior urethritis and diseased colliculus to nervous affections. Burkhardt, in 1889, described the hypertrophy of the colliculus as a condition of chronic prostatitis and as a factor related to pollutions, prostaticorrhea, and spermatorrhea. These he treated with a cautery and by applying silver nitrate and iodine. In 1906 Finger concluded that often a causal connection existed between impotence and disease of the colliculus. The primary cause he considered a condition of irritation in the posterior urethra, a "stasis catarrh" with infiltration of the mucosa and hypertrophy of the colliculus, and thought that secondarily impotence resulted. He described a small cell infiltration of connective tissue that caused excrescences when superficial, but when thick connective tissue resulted glands were compressed or blocked. This process sometimes included the ejaculatory ducts and thus gave symptoms connected with the sexual act. From 1895 to 1908 noteworthy articles appeared by Tano, Klotz, Dietz, Popper, Scharff, Schmidt, Feleki, Terrepson, and Frank.

The importance of gonorrhoea in the etiology of colliculitis is recognized by everyone, but some emphasize it more than others. Of 103 cases reported by Wassidlo, 97 had gonorrhoea one or more times, 57 still had chronic gonorrhoea with infiltrations in the anterior urethra, 38 of these had chronic prostatitis. The remaining 6 practiced sexual abuse in some way. As an example of the gonorrhoeal type, Roth and Mayer described a succulent or infiltrated colliculus with proliferating granulations so that it resembled a raspberry. Excrescences or polyps may follow this infection. With long-standing cases of gonorrhoea, whether with or without symptoms, two-thirds have that appearance and 20 per

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\*Seventeen of these cases are from the Lakeside Dispensary. For the use of these records I thank Dr. H. L. Sanford.

cent have polyps. The last-named investigators believe that deep-lying proliferating ulcers may be permanent after gonorrhoea and may perhaps be the cause of recurrences. They point out as objective symptoms, persistent discharge, terminal hematuria, bloody pollutions, and dribbling after urination. Lohnstein refers to chronic gonorrhoea as due to superficial proliferating granulations for which he uses the curette in the posterior as well as in the anterior urethra.

Aside from the above mentioned changes in the colliculus it is not uncommon to find erosions, cysts, or epithelial growths. These as well as polyps and excrescences, if they cause symptoms at all, will generally produce definite symptoms such as persistent discharge, painful urination, burning or itching in the urethra, and less often hematuria and priapism. With definite symptoms and pathological findings the prognosis is very good with repair. Of those having polyps 46 per cent never had gonorrhoea (Roth and Mayer).

This leaves a large class of patients to be considered who complain of one or many symptoms. Burning or itching along urethra or in perineum is common. This as other symptoms may be more or less constant or only after urination, when it may persist for 5 to 30 minutes, and may simulate tenesmus vesici. The burning sensation may radiate down the inner sides of the thighs. In some cases these symptoms are exaggerated while working so that the patient is required to rest at intervals. Other patients feel worse after a hard day's work is done. They may complain of a vague pain often described as an ache in the hypogastrium directly over the rami pubes or in the perineum, sometimes radiating into the scrotum, and similarly over the sacrum.

Of such cases this report contains 10. Seven of these had had gonorrhoea and three of them within a year of their first visit. As examples two cases may be cited:

W. L. Single, age 22. Admitted to the dispensary January, 1916. Had gonorrhoea January, 1915. Varicocele operation November 1, 1915. Complaint: Pain in perineum, scrotum, down thighs, and some pain in urethra during micturition. At times he has slight sticky discharge. Urine—First glass contained a few comma shreds, second glass clear. Prostate and prostatic massage negative. The patient was extremely nervous and quivered during the examination and while relating the history. The colliculus



was distinctly hypertrophied, congested and bled easily. Silver nitrate 20 per cent was applied. After four treatments the patient had no more complaints. Last seen April 14, still free from symptoms except for nervousness and worry about himself. Colliculus was negative.

The second case had more definite relation to gonorrhoea.

W. W. Single, age 25. First visit to my office November 17, 1915. Had Neisser infection four years ago and was treated by a doctor. He has had varied treatment ever since, complaining only of burning during urination. Treatment consisted of sounds, irrigations, injections, vaccines, and had been examined with the endoscope and cystoscope. For last nine months has noticed a thin secretion in the morning. He is also troubled with frequent erections, with dribbling afterward. Examination—Urine contained shreds in first glass; examined for gonococci, none found. Prostate not enlarged. Sound size 27 French passed easily. Anterior endoscopy was negative. Posterior endoscopy showed granulations on the colliculus which was hypertrophied. Treated with silver nitrate 20 per cent. Discharged February 8, free from symptoms two months and urine was clear, with no pus.

Of a different nature and without such good results is this case:

C. S. 141396. Married. Age 35. Admitted to the dispensary May 26, 1915. Complaint was pollakiuria and burning in penis, relieved by urination. Urine examination negative. Cystoscopy—bladder capacity 250 c.c.—slight inflammation of the trigone. Ureteral specimens negative. Given bromides till June 30. I first saw the patient when he reappeared, October 11, worse than before, urinating every 15 minutes and 3 times at night. He had pains in the penis and bladder. Cystoscopy showed bladder everywhere congested. He refused to be endoscoped. December 18, two months later, symptoms having remained the same, he returned for treatment. It was now learned that the patient had practiced coitus interruptus for 12 years. Treatment of colliculus, which was hypertrophied but not congested nor eroded, was now begun with silver nitrate 20 per cent. Relief was noticed after the first treatment but the symptoms reappeared after inter-

course. January 21, after one month of treatment and seven months after admission, he held his urine one-half hour in the day and urinated but once at night; pains were diminished, but during erections were the same as before. Cystoscopy showed mucosa congested, so bladder irrigations and argyrol instillations were begun. April 22, after two months of bladder treatments, the patient complains of burning in penis and pollakiuria while at work, which is in a hot room, but is all right at home. Colliculus is negative. Patient went to country, returned here first of October, 1916, well.

Orłowski has described this inflammation spreading from the colliculus and calls it collicystitis. He notes there may be lack of sensation of completed urination, dribbling, a wet condition of the urethra, frequent and convulsive desire to urinate, painful constriction at end of urination, a sensation of pressure during the act, and the urine is clear.

To the hypertrophy of the colliculus many symptoms have been referred. Orłowski stated that it is essentially a local independent inflammation due to wrong sexual habits and is in connection with disturbed vascular tone. As etiological factors he mentions interrupted coitus, frustrane libido, amor Gallicus, and over-frequent intercourse, and states that infectious inflammations are rare. Chronic circulatory prostatitis leading to diminished tone of ejaculatory ducts and afterward to frequent seminal losses and spermatorrhoea are also rare according to this investigator. In writing about colliculitis and perversion he cites two cases that passed through the stages of colliculus hypertrophy to that of impotence and were cured by caustics to the colliculus. He distinguishes between the hypertrophied colliculus after gonorrhoea and that after sexual abuse, not anatomically but in the functional weakness of the nervous center and conducting organs. This leads to the consideration of neurasthenia sexualis, which Roth and Mayer describe as a vicious circle in that pollutions lead to a relaxation of the musculature of the ducts and this causes spermatorrhoea, prostatorrhoea, and pollutions. The relation of disease of the colliculus to priapism, pollution, and sexual perversion has been the subject of much dispute.

Roth and Mayer incline to a neurovascular theory of impotence. They are of the opinion that the colliculus contains sensi-



tive nerves which are the points of stimulation of sexual nerve organs, that the causes of the pathological anatomy and of sexual irritation lie in the effect of stasis and continued repeated abuse of the genital nerve and vascular nerves in conjunction with mechanical insults. They object to Finger's theory of impotence being caused by continued stimulation leading to a lowering of the center and final exhaustion because:

1. Acute gonorrhoeics retain their potency.
2. Priapism does not end in pollutions.
3. People suffering for years with pollutions lose them with the practice of a regular sexual life.

Michailoff and Zdanowitsch support a vascular theory. They have in many cases of impotence showed passive hyperemia of the prostatic urethra and changes in the colliculus which result from it. These changes are in fresh cases edematous swelling, and in old cases atrophy. They believe that local asphyxia of the prostatic part and the accompanying suppressed energy of the oxidation process with its resulting phenomena cause a diminution of the sensitiveness of the nerve endings and of the cord centers, and have as a result disturbances of erections and ejaculations. In this connection it is interesting to note the findings of Porosz. He discovered that the spermatic sphincter lies in the colliculus and its contraction can occur only simultaneously with those of the prostate. The stronger the prostatic musculature the more lasting is coitus and the stronger the closure the greater the sensual feeling. On this basis he explains ejaculatio precox, decreased sensuality, sleep pollutions, defecation spermatorrhoea, which later becomes micturition spermatorrhoea, and failure of ejaculation with force as due to atony of the prostate and spermatic sphincter.

A young man, B. Z., of twenty, single, was admitted to the dispensary May 27, 1916. His complaint was inability to ejaculate during intercourse. His history showed that he was masturbating for several years and at the age of 17 he had had intercourse per os with a boy companion. He dated his present complaint since that time. He has an ejaculation now when he mas-

turbates, but without force or sensation. Abstinence for one month had no effect. His meatus was too small to allow endoscopy. Meatotomy was done August 3. This was followed by sounds and one irrigation. September 16, one month after last treatment, he reported as well, having normal sensations during coitus. This patient's colliculus was never looked at, but on the basis of what has just been said it seems not at all improbable that his affection was due to atony of prostate and spermatic sphincter.

Although in this series congested hypertrophied colliculus has been seen in nearly every case, none has complained of impotence. Four cases were treated for pollutions only. They were all boys less than 20 years of age; had three or four pollutions a week and reported well after four or five treatments of silver nitrate 20 per cent to the colliculus. No final report has been obtained on these cases.

In this series is a case of micturition spermatorrhoea. The patient, C. N., 124160, single, 26, was admitted to the dispensary August 30, 1913. Had urethral discharge six years before. Complement fixation for gonorrhoea was negative. October 11, 1914, he complained of morning drop and was discharged cured December 29. Seven months later he reappeared with the added symptom of continual pain in the urethra, for which he was given four applications of silver with relief. After a lapse of three months he returned, still complaining of dribbling, and this time spermatorrhoea was definitely seen. He was treated with applications and sounds and has remained well nine months.

B. K., single, age 28, 148607, is a case of dribbling without a previous infection. For two years dribbling and burning after every urination were the only urinary disturbances. He also gave a history of pollutions and masturbations. His colliculus was large, edematous with granulations. Four applications removed the granulations and improved his condition. When last seen, September 30, he complained that for past six months he was the same as before.

To discuss the use of the endoscope the case of S. K., single, 22, 137963, will be considered. The patient was admitted Febru-



ary 3, 1915, complaining of morning drop. He had had gonorrhoea one year previous. Genitals and prostate were negative. The first urine contained shreds, second was clear. Till August 14, he had been treated by massage and irrigations, sounds,  $\text{ZnSO}_4$ ,  $\text{AgNO}_3$ , instillations, and protargol, all without avail. Anterior endoscopy, as well as posterior, with a Swinburne, had given negative results. On July 6 a complement fixation test was negative. Cystoscopy, too, failed to disclose any lesion. On August 14, six months after admission, there was obtained an excellent view of polyps in the urethra surrounding the sphincter vesici and extending in the prostatic portion close to the colliculus. The D'Arsonval current was used, first through the Wassidlo instrument and later with more ease through the Buerger cysto-urethroscope to burn these polyps. When seen, August 3rd, there were no polyps, but the patient still had occasional morning drop. October 31, 1916, the patient has returned for treatment. He had four polyps adjacent to the colliculus. These were destroyed by the D'Arsonval current.

This case shows well the limits of the Swinburne endoscope or others on that model. Soon after the colliculus is passed the beak enters the bladder and the flood of urine resulting obscures the field. Therefore this instrument can be used only for inspection and treatments by applications of the colliculus and the urethra at its side, but not posterior to it. For inspection of the colliculus or any one spot of the floor of the posterior urethra the Wassidlo gives as good if not a better picture than the Buerger cysto-urethroscope, but because of its long beak it is not so easy to observe the roof of the tract as with the latter. Furthermore, with the Buerger instrument the bladder can be examined at the same time. With the Wassidlo there are a set of tools as cautery, curette, scoop, etc., which can be used when indicated. Similar operations can be done with the Buerger, and with this it is easier to manipulate a wire for high frequency treatments than with the Wassidlo. It must always be remembered when using either of these water instruments that the tissues are blanched by the dilatation with the irrigation, but with careful attention to the irrigating fluid this can be controlled so that the picture can be correctly interpreted.

Patient	Civil Condition and Age	Diagnosis	History of Gonorrh.	Healed	Improved	Unimproved	Chief Complaint	Lapse before final report
B. K.	S. 28	Colliculitis	0	+			Dribbling after urination	8 mos.
C. N.	S. 26	Spermatorrhoea	0	+			Dribbling after urination	8 mos.
M. O.	S. 30	Colliculitis	+	+			Burning in urethra	4 mos.
W. L.	S. 22	Colliculitis	+	+			Burning in perineum, thighs and hypogastrium	6 mos.
L. R.	M. 44	Colliculitis	0	+			Pains about perineum	4 mos.
H. Y.	S. 24	Colliculitis	+	+			Burning in urethra	4 mos.
C. S.	M. 35	Collicystitis	0	+			Frequency and pain	6 mos.
J. J.	S. 32	Sex. Neurasth.	+				Pain in urethra	
R. J.	S. 23	Colliculitis	+			+	Itching in urethra and thighs	2 mos.
E. Mc.	S. 38	post gon.	+				Burning in urethra	
S. K.	S. 22	Colliculitis	0	+	+		Discharge	Well 2 mos.
J. G.	M. 35	Polyps	+		+		Well 2 mos. after 1 application—sent to State Hosp. because of mental condition	7 mos.
		Pollutions	0		+		Discharge and burning in urethra	2 mos.
L. S.	S. 27	Pollutions	+	+			Pollutions and pain in perineum	2 mos.
W. W.	S. 26	Colliculitis	+	+			Thin discharge and frequency	
O. W.	S. 28	Prostatorrhoea	0	+			Pain in back, burning and frequency	2 mos.
C. B.	M. 34	Collicystitis	+				No ejaculation at intercourse	
B. Z.	S. 20	Relaxed ducts.	0	+				

Of 21 cases—4 were masturbators and had pollutions. About these there is no final report, although when last seen they were improved. Of the remaining 17 cases with pathological condition of the colliculus or the supramontane portion of the prostatic urethra, 11 have been healed for periods of 2 to 8 months, 4 are improved and 2 are unimproved; 9 had had gonorrhoea; 15 were single; 6 married; youngest, 20; oldest, 38.



## References

- E. Burckhardt: *Endoscopie u therapie der Harnröhre u Blaise*, 1889. *Deutsche Chirurgie*, Lf. 53, 1902.
- H. Wassidlo: *Folia urologica* Bd. 6 no. 7. *Urological and Cutaneous Rev. Supp.*, 1913, p. 47. *Zeitschrift f. Urol.*, 1908. Bd. 2, p. 243.
- H. and E. W. Wassidlo: *Zeit. f. Urol.*, 1914, VIII, 161.
- Lohnstein: *Zeit. f. Urol.*, 1914, p. 529.
- E. Frank: *Zeit. f. Urol.*, 1908. Bd. 2, p. 922.
- N. A. Michailoff: *Ibid.*, 1909. Bd. 3, Hft. 11.
- W. Zdanowitsch: *Ibid.* Bd. 3, H. 7.
- M. Roth and T. Mayer: *Ibid.*, 1914, p. 12.
- Finger: *Hdbch. f. Urol.*, 1906. Bd. 3.
- P. Orlowski: *Wien. Med. Wchshrft.*, 1909, p. 2371. *Urological and Cutaneous Rev. Supp.*, 1913, p. 55.
- M. Porosz: *Folia Urologica*, 1914, VIII, 10.
- Wolbarst: *Amer. Jour. of Surg.*, 1914, 369.
- L. Buerger: *Ibid.*, February, 1915. *Trans. Amer. Urol. Asso.*, 1911.

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**Starch and Table Salt Sold as Neosalvarsan.**—The recent indictment by the Federal Grand Jury in Newark, N. J., of "Dr." Jean F. Strandgaard, of Toronto, Canada, and George F. Hardacre, of Toronto, and a steward on the steamship "United States," has revealed to Chief Inspector E. R. Norwood, of the Customs Service of New York, what he believes to be a widespread conspiracy to defraud the Government out of customs revenue by smuggling salvarsan and neosalvarsan into the United States.

A most serious feature of this matter is the discovery by Inspector Norwood that these men also had in their possession a large quantity of spurious neosalvarsan. Upon analysis by the Government experts, the contents proved to be starch in the majority of the ampules and stained table salt in the others.

A further investigation showed that during July, 1916, Strandgaard had 15,000 ampules made in Jersey City, which upon his instructions were filled by the glass blower with either starch or salt. A remarkable coincidence is that during August and September, and as recently as the time Strandgaard was arrested in New York, physicians and drug stores all over the Middle West and the East were approached by women trying to sell, on the one pretense or another, the frauds made for Strandgaard. These spurious products were put up in imitation of either the German or particularly the English package, as marketed by the German manufacturers in England before the war, in square pasteboard cartons. They did not appear in round aluminum packages, like the American package. They are very cleverly executed, and their outside appearance even led experienced physicians to be deceived.

The product has been sold in New York, Chicago, Milwaukee, Cincinnati, Peoria, Kalamazoo, Detroit, Terre Haute and Mobile, and other Western and Southern cities, and is undoubtedly still being peddled on account of the great profits accruing to the saleswomen.

There is no need to call the attention of physicians to the dangers connected with the use of such frauds. In view of the serious and possibly fatal results which would follow the administration of these fraudulent salvarsans, it is incumbent upon medical men who have any information about the distribution or sale of these frauds to communicate with Chief Inspector E. R. Norwood, U. S. Customs House, New York, at their earliest opportunity, or, in case of emergency, with the local police authorities.

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## THE USE OF RADIUM IN DERMATOLOGY\*

By H. N. COLE, M. D., Cleveland

From the Department of Dermatology and Syphilis of Western Reserve University and Lakeside Hospital.

In 1896 Becquerel first made the discovery of radioactive properties in uranium, and the next year Madam Curie, working with a ton of pitch-blende from Joachimstal, discovered radium.

Radium is a dark grey substance with atomic weight of 225.9 and an average life of 2440 years. It loses about half its strength in 1800 years. Most of the radium in this country is extracted from carnotite, a uranium-bearing ore found in Colorado and Utah. Radium very slowly decomposes, giving off what are known as Alpha, Beta, and Gamma rays, the end result of its successive decomposition being a substance which it is impossible to differentiate from lead.

And now a word as to its rays. The Alpha rays are real atoms charged with electricity, which are now known to be the element helium. These atoms are of short wave length, very irregular in action but easily screened off by a layer of rubber or paper, as they are non-penetrative.

The Beta rays are of longer wave length and are electrons. Their penetrative power is much greater than that of the Alpha rays, and if we wish to screen them off, thicker substances such as a thin layer of aluminum, of brass, or of lead is required. The Gamma rays are of great wave length and will penetrate even twelve inches of steel.

These different qualities allow us to employ the several rays according as we want superficial or deep action.

The Alpha rays are very numerous; much more so than the Beta, and even more so than the Gamma. So that if we want simply a superficial, irritating action, the radium may be employed without any screening for a short time. Again, if we wish a moderately deep action, we can cut out the Alpha rays and a portion of the Beta by a screen of thin brass and use the radium for a longer time. Again, if we wish a deep, lasting action, the Alpha and Beta rays are screened off by a thick piece of lead or brass and the radium is employed for a longer time; e. g., three or four or even more hours.

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\*Read before the Academy of Medicine at its meeting, April 21, 1916.



We speak of time duration of a radium treatment as so many hours multiplied by the amount in milligrams of radium used. Thus, ten milligrams employed for one hour would be ten milligram hours, or fifty milligrams employed for three hours as 150 milligram hours.

The radium may be employed, enclosed in a small glass capsule, or what is better for cutaneous work, in what we know as varnishes. That is, the radium is thoroughly incorporated in a flat varnish so that an even action can be attained over a flat surface of a desired size or shape.



ILLUSTRATION I

Result after radium treatment of a large hickory-nut-sized, bright red naevus on end of nose.

The uses of radium in dermatology are many, and probably in no other field of medicine does it give the lasting and satisfactory results that are to be attained here.

Naevi—both pigmented and vascular, verrucae and basal cell epitheliomata are curable in practically every case if seen at the proper time. This applies, to a certain degree, to carcinomas resulting from old X-ray burns.

Lupus erythematosus, one of the most obstinate conditions that the dermatologist meets, also reacts very nicely to its action.

With lupus vulgaris the action is not quite so good.

The same is also true of cheloids.

Let us take them up in detail:

The action of radium in cases of naevi is sometimes striking, this is especially true of the cavernous type. If we can get



ILLUSTRATION II

Patient had had a red walnut-sized angioma, almost closing the right eye.  
Result after 60 milligram hours of radium.

a cross fire action then the results are quicker and more telling. In these cases we generally employ thick screening. I have thus far treated five such cases.

In one with a castor bean sized lesion on the jaw, and another bright red one on the tip of the nose, the skin at present



shows nothing and there is no evidence that there was formerly anything present. In another child with a large, very red, walnut sized lesion in the upper right eye-lid; the angioma has practically disappeared and the same is true of a baby with a cherry red hickory nut lesion at the outer cathus of the left eye. The fifth child had a raised, dollar-sized angioma of the back and is entirely well.

One case with an enormously large angioma, the size of two fists, under the jaw, has had but two treatments; though with much improvement. With port wine stains one must work very cautiously and not go too rapidly. We have as yet completed treatments with but three patients. One a child with a lesion on the back and another child with a lesion on the arm, both of which are entirely well. In the case of another child with a large irregular 2x4 centimeter angioma on the right cheek, the result has been very good though we may, perhaps, have to give one or two more exposures.

Dr. Frank Simpson of Chicago has called our attention to the value of radium in lupus erythematosus and from my small experience I can corroborate his findings.

A varnish applicator is generally employed 20 to 35 minutes with a screen of paper or rubber dam, repeating as required.

One case with numerous areas over both cheeks and ears when last seen was practically well.

Mrs. S. with a marked involvement of her entire face showed little change. Mrs. P. with an involvement of both cheeks, a patch on one ear, and of the mucus membrane of the lower lip is entirely well, outside of a small area on one cheek. One other case with an extensive lupus erythematosus of the nose, cheeks, and upper lip is very much improved, after the X-ray would no longer benefit her.

Our experience with epitheliomata of the skin has been quite extensive and we have encountered all types from the small beginning basal cell epithelioma of the face, arising from senile keratoses, to the typical rodent ulcer and to the papillomatous epithelioma. The ages of the patients varied from thirty-five to eighty-four and outside of one lesion eight weeks old on the lip, one small carcinoma of the chest and one of the leg, all growths have been on the upper 2-3 of the face or on the neck. Our treatment varies, of course, with the lesion. Senile keratoses react very nicely to one or two treatments with a half strength

applicator unscreened or screened with a layer of rubber for thirty minutes and we have cured many. Small beginning basal cell epitheliomata we have treated in the same manner—usually giving them a deeper treatment after the skin has healed entirely from the irritative action.

When the lesions are deeper or papillomatous in character, more prolonged treatments are given using screening of one or

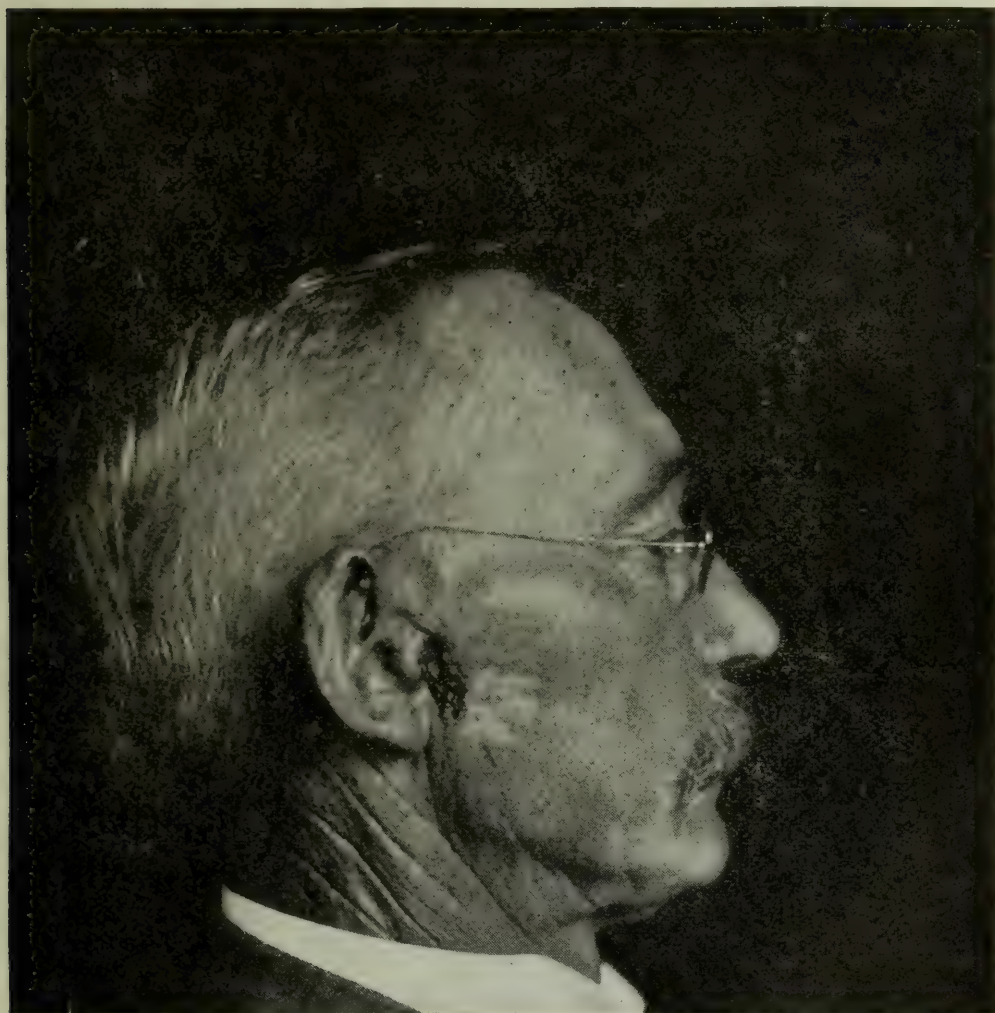


ILLUSTRATION III

Rodent ulcer, 25 years duration. Scar from former ulceration seen anterior to ulcer. This picture was taken after ulcer had begun to heal.

two milligrams of brass, silver or rubber. In such cases it is necessary to use a rubber screening between the metallic screen and the skin in order to shut off the irritating secondary rays set up in the metallic screen. Of course this is true of any use of radium and our results have been very good. For example: Mr. S., age 61, with a history of an ulcerating lesion on right



side of face for twenty five years, face now has entirely healed over with a smooth scar. When first seen he had a 2x4 centimeter deep ulceration in front of right ear. Mrs. C., with a typical castor bean sized basal cell epithelioma of the skin on the chest, after two prolonged treatments is now entirely healed and scar has almost disappeared.

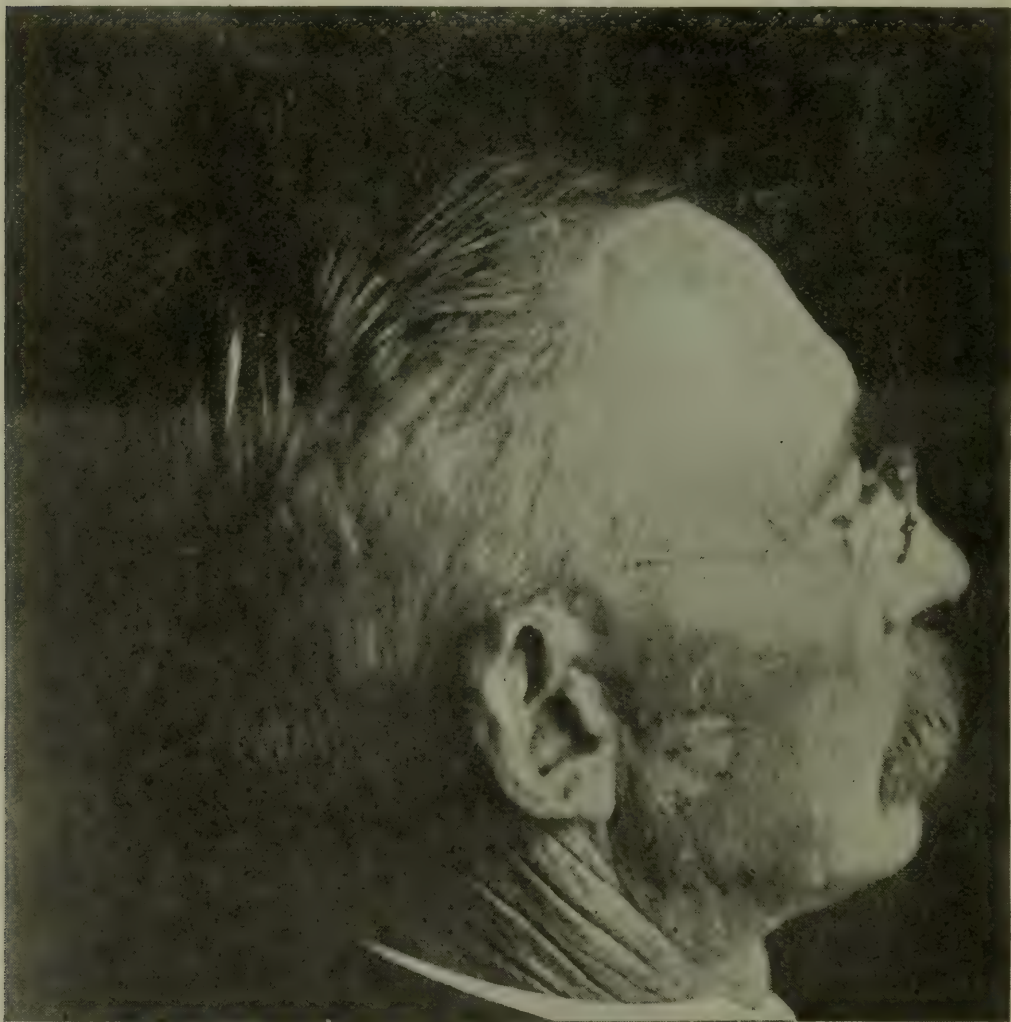


ILLUSTRATION IV

Same, after 195 milligram hours of radium, showing small amount of scar formation.

One patient, age fifty-two, with a pea-sized lesion of the lower lip, we felt justified in treating with radium alone, as it was only of several months' duration and there seemed to be no glandular involvement. The lesion has healed very nicely and as yet there has been no evidence of recurrence. Out of twenty-two cases of basal cell epithelioma, eighteen cases are entirely well and in many of them the point of the disease cannot be de-

tected. The remainder of them are cases still under treatment. Radium is the remedy *par excellence* for the basal cell epithelioma as seen so often on the face. It is painless, easily applied, easily controlled, and leaves very little scar formation. Its action is not disfiguring and there is no nerve paralysis. It is to be recommended in all such cases. In only one case has there been any evidence of recurrence and this was in the case of a woman with a 1 x 2 centimeter lesion on the neck, and it was entirely the fault of the patient in not returning for two final treatments as advised. We have thus far treated two physicians with X-ray keratoses of the hands. In one case the patient was an old X-ray man with severe keratoses from a static machine, and he has been much benefited even though the treatments have been rather irregular. The other physician, with keratoses of the palm due to severe X-ray treatments of hyperidrosis, is practically well at time of writing. We do not pretend that radium is a "cure-all," nor are we overly enthusiastic, yet we have had some nice results and feel that it has a place in dermatology that can be filled by no other means. We would seriously condemn the man who will attack anything with a small amount of radium, feeling that he is doing harm not only to the patient but also to the profession and to the radium itself. However, when it is properly and conservatively used it is a very valuable remedy.

2073 E. 9th St.

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**The American Journal of Syphilis.**—The publication of the first number of a new quarterly journal under the above title is announced for January, 1917, to be devoted to the study of syphilis in all its phases. Original articles dealing with the work of investigators will be featured, and it will be the purpose of the editors to make the magazine cover the field of syphilology in a thorough and timely manner. Social hygiene workers will be specially interested in the department "The Social Aspect of Syphilis" of which Wm. A. Pusey, M. D., of Chicago, is editor. The Journal is to be published by the C. V. Mosby Company, St. Louis, Mo. Loyd Thompson, M. D., Hot Springs, Ark., is managing editor.

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## A REPORT OF THE COMPLEMENT FIXATION TEST FOR GONORRHOEA

By T. P. SHUPE, M. D., Cleveland

The phenomena of complement becoming inactive when micro-organisms are mixed with their homologous antisera, has been known since 1901 and was first discovered by Bordet and Gengou. That the complement becomes inactive may be seen by the absence of hemolysis when sensitized erythrocytes are added to the mixture. It was not until 1906, however, that Mueller and Oppenheim first used this method for the detection of antibodies in the blood serum of patients infected with the gonococcus.

From that time on many men have reported on this test with quite variable results. In 1911 Swartz and McNeil established the fact that the gonococcus family was a heterogeneous one. They, therefore, used a number of different strains of the gonococcus in their antigen and reported a greater percentage of positives in persons infected with the gonococcus than had heretofore been found. A great many of the negative results from early reports were a direct consequence of using only one culture of the gonococcus. If the patient happened to be infected with another strain the results were, of course, negative.

The same principle of complement fixation has been used quite extensively in the Wassermann reaction and while not a truly specific reaction, yet its immense value in the diagnosis and guide to therapy has never been disputed.

The fixation of complement in the gonococcus test is a result of the interaction of antigen and its own antibody. While it would seem that this latter test would be absolutely specific, yet there are a number of factors which make it quite more difficult to perform than the Wassermann. Among these factors may be mentioned the multiplicity of strains of the gonococcus, the infrequency of the infection being in the blood-stream, and the frequency with which it is limited to a very small portion of the body.

Practically the greatest difficulty lies in the small amount of antibodies produced by the disease in an uncomplicated form. The ordinary technique, as applied to the Wassermann, will hardly work out to the best results if applied directly to the test in question.

The following report and conclusions are based upon a little over 1000 tests. The first 200 were performed and reported in 1913 by Dr. H. L. Rockwood. These tests have all been done in the laboratory of Dr. Lower and the material has been gathered mainly from Lakeside Dispensary and private patients.

### **General Technique and Materials**

Two methods for measuring the reagents were used, namely, the metric and the drop method. The one in favor at present is the drop method, as by means of properly and finely drawn out pipets a finer division can be made than by the graduated ones with their blunt ends. The graduation of the amboceptor needs to be especially watched, as it will allow no such variation as in the Wassermann. The antibody content is quite small and needs a finely adjusted amboceptor not to miss it. The antigen and its preparation is one of the most important steps in the performance of the test. Three different preparations have been used in this series. Those of Parke, Davis & Co., Mulford & Co., Dr. Warden's Fat Extract of the Gonococcus.

Theoretically a patient's blood should be tested against an antigen made from a culture of his own infecting organism, but as one does not see a person from the onset to the end of the disease, this procedure is impossible. A good gonococcus antigen should contain at least 12 different strains suspended in a sterile salt medium to which has been added a small amount of preservative. The antigen prepared by Parke, Davis & Co. and found on the open market, is the most satisfactory antigen used. It has been found necessary to titrate each new box. Some have been rejected as anti-complementary. The usual titration lies between 1-10 and 1-20. It has been found best to use the largest amount of antigen which will inhibit haemolysis in a positive serum and yet give a negative inaction with a negative serum.

An anti-sheep haemolytic system has been used throughout and fresh guinea pig serum diluted 1-10. The amboceptor is titrated each day of the test and one unit of the smallest amount of amboceptor which will cause complete haemolysis is used. We have found that it is more difficult to prevent complete haemolysis in slightly positive sera than to get a positive result with negative sera.



The sera and sheep cells are prepared in the same manner as for the Wassermann test.

### Discussion

The problem presenting itself in which this test is employed is the question whether or not a person still harbors gonococci.

With the exception of the first 200 cases the examinations have been performed on the class which is known as clinically cured or on cases of arthritis or epididymitis of questionable origin. A few cases of salpingitis and vulvo vaginitis have also been examined with a high percentage of negative results. In the vaginitis cases 50 per cent, while salpingitis gives 60 per cent positive. The more recent the infection after the first four weeks the stronger the reaction, while in some old cases undoubtedly of gonorrhoeal origin the results are negative. There is no employment of the test in the acute cases. It is not difficult at all to diagnose an acute or subacute case of gonorrhoea.

The great mass of cases which demand this test are usually in the male, usually give an undisputed history of an infection and at the time of presenting themselves have little or no symptoms of the disease. In a case of this kind there are three methods which may be used:

The staining, the cultural and the fixation test.

Except in acute cases the Gram negative stain cannot be accepted. In an old standing case with little or no discharge, the micrococcus catarrhalis and the various forms of degenerated staphylococci may all give a negative Gram stain with much confusion of results.

The second method is cultural. There is considerable difficulty in growing the gonococcus on artificial media in an acute case where the organisms are abundant, but how much more difficult in the clinically cured case only one who has tried it can say. When a growth is obtained it is positive, undisputed evidence, but a negative growth does not exclude the presence of gonococci.

The third method is the test under discussion, and while not infallible, yet we believe it the most reliable method yet discovered for determining the absence of gonococci. Clinical experience is still of some value and the report of the test should be correlated to the other facts in the case. It should be accepted as one sign or symptom or an added bit of evidence.

### Conclusions

In this series of cases no case has been found in which the result was positive when the patient had not been infected with the gonococcus or did not have gonococci vaccine. Fresh sera must always be used, as serious errors on the positive side may come from a contaminated serum.

A positive or negative Wassermann has no effect on the reaction. In acute cases when it is very easy to demonstrate the presence of gonococci, the fixation test is generally negative in the first five weeks and becomes positive from the fifth to the sixth week in uncomplicated cases.

If the infection remains limited to the anterior urethra and subsides by the 7th or 8th week, the patient may never have a positive reaction. A positive reaction occurring in a person clinically cured of gonorrhoea indicates the presence of a gonococcus focus, and these persons are potentially capable of infecting others.

The antibodies may remain for 5 or 6 weeks after all organisms have disappeared and a negative test following a positive one in a supposedly cured case is good evidence that that patient is cured.

About 30 per cent in this series were positive when supposed to be cured.

The test is of particular value in gonorrhoeal arthritis. It is about 100 per cent positive in this class. In acute epididymitis, after five weeks from the onset of the disease, it is 100 per cent positive.

Chronic prostatitis, seminal vesiculitis and posterior urethritis give 80 per cent positive reaction.

An uncomplicated stricture does not give a positive result.

An individual may have two or more infections and in interpreting a positive test it should be borne in mind that gonorrhoea is a very widespread disease.

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## SKOOKUM CHUCK

H. F. BIGGAR, M. D., Cleveland

From the waters of Medical Lake, Spokane County, Washington, we get Skookum Chuck. Its curative properties have been known to the Indians of the Northwest for many years. There are many legends of tribal history respecting the curative properties of the waters of the lake. When the waters were sought by hostile Indians, all were permitted to peacefully drink.

It is told of a Frenchman passing the lake many years ago, before the properties of the waters became known to the whites, with a drove of sheep afflicted with a skin disease called the scab, that as soon as the thirsty sheep saw the water they ran to it, but would not drink. Disappointed they stood in the water for some time, and in a few days they were well of the scab. This same shepherd Frenchman was suffering with rheumatism and concluded to try the waters of the lake and was soon relieved. The whites were soon attracted to this lake by the stories of marvelous cures reported by the Indians, who saw many invalid Indians, taken there on litters, return to health and vigor after visiting the lake. It is estimated that over 20,000 people have visited this lake since "Joseph's Band" were driven from that section of the country, and it is reputed as popular as any other of our great health resorts.

Particularly efficacious in skin diseases it has given relief in rheumatic, catarrhal and in urticaria affections. By evaporation the salts are procured and can be used medicinally by dilution or trituration.

I have found it very efficacious for intractable eczema, using the following application as a wash to affected parts:

External use—

R	Tr. Skookum Chuck	oz. $\overline{ss}$
	Glycerine	oz. 1
	Water	oz. 111

Mix.

Internally as follows:

R	Tr. Skookum Chuck	oz. tts. XX
	Water	oz. IV

Mix/Sig. A teaspoonful every 4 hours.

The dosage may be regulated as conditions may indicate.

## THE PROGRESS IN PEDIATRICS

By HUBERT C. KING, M. D., Cleveland

### Infantile "Grip"

The epidemic of grip which swept the country last winter has been reflected in the production of a considerable literature describing the clinical, bacteriological and pathological observations of those who saw and treated many cases at that time.

The importance of infections of the respiratory tract can be appreciated when one considers the statement of Dr. Isaac A. Abt that "La grippe influences infantile mortality and morbidity in the winter much the same as do the diarrhoeal diseases in the summer." In the sociological and scientific efforts to combat infections of the intestinal tract and to educate the public regarding their prophylaxis, we have somewhat neglected a source of infant mortality hardly second in its destructive effects. The public as a whole is not advised and the expression "just a cold" throws open the door to pneumonia, otitis, tuberculosis and endocarditis.

A great deal of discussion has centered about the question as to whether the influenza bacillus is the true causative agent. In the reports of the cultures of last winter the streptococcus, the staphylococcus and the pneumococcus predominate. Most articles give first place to the streptococcus, while personal experience showed a diplococcus resembling the pneumococcus to be the more frequent offender.

The infection manifests itself in children as a (1) severe general infection, (2) a catarrhal infection, (3) gastric type, (4) as a diarrhea and (5) as an infection in which the symptoms are referable mostly to the nervous system.

The characteristic picture is that of coryza and pharyngitis, with extreme prostration. The onset is usually sudden. The baby is prostrated, refuses food and is restless. Older children complain of sore throat and particularly of the general aching so characteristic of the disease. The height of the temperature varies widely, from an elevation of one or two degrees to a temperature of 105 or 106. Very weak children, with little resistance, may be overwhelmed with the infection and yet show scarcely any elevation of temperature. The refusal to eat is due to the toxemia, as in any acute infection, and is also often due to the nasal



obstruction, which renders breathing impossible when the mouth is closely grasping the nipple. The initial vomiting is an expression of toxemia and not a disease of the gastro-intestinal tract. In the epidemic of last year many observers recorded cases in which the vomiting was so violent and persistent as to justify the classification of a "gastric type." The intestinal form of influenza is well recognized in adult medicine and it seems as much of an entity in pediatrics. There were cases occurring in the midst of the epidemic in which the characteristic, and almost only symptoms were those referable to the intestine. It is well known that a looseness of the bowels occurs in infants in many and varied conditions, but these cases occurred in infants exposed to influenza in the midst of a severe epidemic of the disease and followed directly an attack of high fever and the characteristic prostration of influenza. They did not follow the ordinary catarrhal type of the disease in a single instance in one large series of cases.

Examination may reveal but little. The temperature can be recorded by the thermometer. The inflammation of the nasal mucosa is often manifest by the mouth breathing and the inability to suck. The involvement of the naso-pharynx may be diagnosed by redness of the throat and by the observation of mucopus on the posterior pharyngeal wall, but often examination reveals nothing. A peculiar, disagreeable odor to the breath has been described, a "*fetor ex ore*."

The most common complication is otitis media. As a rule the prognosis is not bad. Considering the large number of cases in children, mastoiditis is not common. Mastoid infection, meningitis and brain abscess do occur, but they are not common.

Bronchitis is common and bronchopneumonia not rare. The bronchopneumonic type is the common one, although lobar pneumonia does occur.

Endocarditis may occur, but myocarditis seems to be more common. The myocardium is affected by the toxic products as in any of the acute infections—scarlatina, typhoid or diphtheria. The symptoms are tachycardia, pallor or cyanosis, dyspnoea, dilatation of the heart, arrhythmia. Abt says that very marked anorexia is an important symptom. A slow and irregular heart, after the acute stage is passed, indicates involvement of the myocardium. A severe influenza influences an already existing endo-

carditis with a valvular lesion most unfavorably, and may, indeed, be the factor which determines a break in a formerly perfect compensation.

Kidney involvement is not rare. Albumen and a few casts occur in any severe infection, but in these cases we may see a true and severe hemorrhagic nephritis. Uremia and convulsions may occur. Several excellent observers give a good prognosis, but we saw one case in the Lakeside Dispensary in which there was a fiery red throat, general anasarca, with fluid in all the serous cavities and the urine of an acute hemorrhagic nephritis. In the hospital he had uremia and convulsions. In spite of prolonged hospital care, at last observation he still showed the urine of a severe chronic tubular nephritis, several months after his illness.

Meningitis may occur. It may be a pneumococcus meningitis, with the always unfavorable prognosis. Meningitis, due to the influenza bacillus, may occur. These cases are practically always fatal. A serum has been reported to have saved some.

Pyelitis and peritonitis are of occasional occurrence.

A temperature of 100 or 101 in the afternoon has been observed to outlast the infection by many days or even weeks. It is very stubborn to overcome. In many cases no cause can be found. Recently Royster has suggested involvement of the peribronchial glands as the cause.

*Treatment—Prophylaxis:* Keep away from children when you have even the slightest cold; warn the parents of your small patients of the dangers of infecting their children; see that they do not tolerate a nurse-maid who has a cold and isolate the child at the onset of the disease from any other children in the family. If the mother is affected and is nursing the baby, do not deprive the child of breast-milk, but have the mother near the child only during nursing and have her cover her nose and mouth with gauze while she is with her child.

For the nasal infection nose-drops of argyrol, 10 per cent, are efficacious. The throat should be sprayed with Dobell's solution diluted one-half with warm water. Do not forcibly syringe the nose. If nasal obstruction interferes with nursing, relief is often obtained by the use of nose drops of 1-5000 adrenalin chloride. For the temperature and restlessness there is nothing that equals a sponge bath with water a degree or two cooler than



the body temperature. For these same symptoms powders of aspirin or phenacetin in doses of  $\frac{1}{2}$  to 1 grain often are of value. Recent literature praises the action of quinine, especially in infections due to the pneumococcus. For the troublesome cough paregoric in 5-minim doses or Dover's powder in doses of  $\frac{1}{4}$  to  $\frac{1}{2}$  grain are justifiable, and, in a case with pneumonia, may even save life, by protecting the heart from the strain of the coughing. Acute otitis media demands careful watching, frequent examinations and, when there is evidence of bulging, incision of the drum membrane.

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**Treatment of tbc. and Other Chronic Infected Sinuses.**—Six cases of sinuses were treated by the direct application of a specially prepared ionized gas. Three of these were tbc. The sinuses heal nicely after a series of treatments. Healing of wounds is not retarded by the gas. The gas is prepared by passing air over rectified spirits of rosin and subjecting it to the action of an electric arc of sufficiently high voltage. This gas has strong germicidal properties and is not irritant. If allowed to age, the gas becomes slightly irritant when inhaled. The germicidal action is increased by passing the gas through a ten-gallon glass container which fills and empties in one-half minute. Germicidal action is complete after exposure for twenty minutes to the fresh gas, and for three to five minutes to the aged product.—*A New Method of Treating Tuberculosis and Other Chronic Infected Sinuses. A Preliminary Report, W. C. Sweek, Interstate Med. Jour., March 1916.*

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**Columbia Gives a Food Industry Course.**—Columbia University (Extension Teaching) is giving a "course in practical chemistry of food industries," to cover the period October to February. The School of Practical Arts of the University will give twelve evening lectures on the subject, accompanied by chemical and lantern slide demonstrations, with the object of promoting that intelligent understanding of the composition and properties of foods which is so necessary in connection with their manufacture and preservation.—*N. Y. State Health Bulletin.*

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**Workmen's Compensation and Tb.**—The New York workmen's compensation law provides for compensation for "accidental injuries arising out of and in the course of employment and such disease or infection as may naturally and unavoidably result therefrom." A workman in the State of New York jumped into a river to save himself when a timber broke. He "contracted a heavy cold and pleurisy, which developed into Tb."

The New York Industrial Commission awarded compensation to the workman, and the State Supreme Court affirmed the award.

The opinion is published in this issue of the Public Health Reports, page 1719.—*Public Health Reports, June 30, 1916.*

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WM. D. FULLERTON, M. D., Cleveland

### Psychiatry and Gynecology

During the past fifty years there has accumulated an immense volume of literature on the relations which disease or abnormal function of the female genitalia may bear to various mental disorders. An excellent summary of these observations, researches and opinions, and an up-to-date resumé of the more recent views held by leading writers was presented by F. M. Barnes at the joint meeting of the Gynecological and Neurological Section of the St. Louis Medical Society, in October, 1915, and published in *Surgery, Gynecology and Obstetrics*, 1916, XXII, 579.

We all know how common is the belief that pelvic disorders are the chief cause of insanity among women. This is probably accounted for by the repeated observation that psychoses appear to develop more frequently in women at puberty and the menopause, and that in normal women mental disturbances sometimes are first noticed in association with menstruation and pregnancy. There has not been found any more intimate or specific connection of woman's genitalia with the central nervous system than exists between the latter and the rest of the body.

Unquestionably genital disease or disorder may exist in a woman with mental symptoms, but is there any true relation between the two conditions? Genital disease is no more frequent among insane than normal women, although it is a common error among gynecologists to attribute much of the mental disorder to the pelvic condition, whereas the psychiatrist usually overlooks the pelvic abnormality.

The view that there was some reflex action between the central nervous system and the genitals, particularly if they were diseased, has long been abandoned. Faulty mental mechanisms working upon hyperquantivalent ideational constellations are seen not rarely to lead to the development of true psychoses, but more frequently perhaps to a neurosis. The pathological mental habit is primary, sensations referable to the genitalia are perceived and overestimated in their significance.



The theory of intoxications as aetiological factors in mental conditions has some interesting points. Bassi held that it was not the serious pelvic infections as of carcinoma, myoma and pelvic inflammatory diseases, but minor gynecological conditions such as endometritis, cervical lacerations, malpositions, erosions, etc., which produce the toxemia. Such a relationship is not proven and can not be assumed, although we have the psychoses such as the deliria of general infections like typhoid, pneumonia, influenza and of the puerperium, all fully recognized and spoken of as "symptomatic psychoses."

The activity of the ovaries as one of the ductless glands has received its full quota of speculative importance. That disorders of the endocrinic system do produce marked changes in the mental state cannot be denied, and is well illustrated by hyperthyroidism and cretinism, but that ovarian activity is instrumental in producing mental symptoms is without any proof, nor can any type of mental disorder be associated with any specific ovarian abnormality.

If gynecological disorders play any part etiologically in the production of mental disturbances, it would be natural to expect, comparing the sexes, to find insane women in the majority, whereas the opposite is true. Not only is this so, but it holds true for insane admissions in all age periods, the number of insane men exceeding the women for even the age periods including puberty and the menopause, at which times it has been claimed women were particularly apt to become mentally deranged.

If genital disorders are of etiological importance in the production of insanity in females, one would quite surely expect to find a greater percentage of insane than normal women with pelvic disorders, but gynecologists who have studied this phase are fairly uniform in their opinion that there is no difference in the incidence of gynecological disease or disorder.

It has not been shown that menstruation itself is the cause of a psychosis, and only rarely is such a condition aggravated during menstruation. Menstrual anomalies do occur in the insane, but owe their occurrence more to the deranged function of the central nervous system rather than that the latter depend upon the former.

Women with coexisting mental and genital derangements have been operated upon or treated locally and marked improvement or recovery followed both mentally and in the pelvis. The assumption has been that the mental improvement has been due to rectifying the pelvic condition and sight has been lost of the fact that with the operative care they received rest in bed, good food and hygienic care, the best means of curing many mental disorders, and also that the vast majority of cures reported have occurred in psychoses which are recognized as more or less acute and self-limited. Recovery of the mental condition can as a rule be attributed to the accessory treatment, and one might go so far as to suggest that the mental condition was recovered from in spite of the operative interference.

The question of when to operate or treat locally a pelvic condition in an insane female may be stated to be whenever such interference is warranted in a sane woman, and that special attention should be given the accessory treatment.

The calm judgment of the majority, both psychiatrists and gynecologists, tends at present strongly to the belief that in female genital disease or dysfunction we do not find a cause of insanity, and that gynecological treatment, even where indicated, cannot be recommended as a cure for the psychoses.

Osborn Building.

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**Poliomyelitis.**—E. S. Rosenow, Rochester, Minn., E. B. Towne, Boston, and G. W. Wheeler, New York, report the results of their investigations as to the etiology of epidemic poliomyelitis in a preliminary note in the *Journal A. M. A.*, October 21, 1916. They describe the organisms they have found in considerable detail. It is a peculiar streptococcus which they have obtained from throats, tonsils, and the central nervous system in cases of poliomyelitis. It has produced paralysis in animals of various species when injected into the brain substance, and lesions of the gray matter have been demonstrated. From the nervous system of these animals they were able to isolate this coccus in pure culture but not from their other tissues. It is remarkably polymorphic and seems to grow large or small according to the medium in which it is grown, even after passage through a Berkefeld filter. With the large form of this organism, paralysis has been consistently produced in animals known to be insusceptible to inoculation with material from epidemic poliomyelitis as heretofore practiced. After paralysis had been produced in three rabbits the strain caused characteristic paralysis and lesions of poliomyelitis in monkeys. The authors do not attempt to give definite conclusions as to the relations of the organism to the etiology of poliomyelitis. It seems to them that the small organism which has been generally accepted as the cause may be the form taken by this organism under anaerobic conditions in the central nervous system and culture mediums, while the larger and more typical streptococcic form may be the same organism grown larger under suitable conditions. The article is illustrated.

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## NEUROLOGICAL REVIEWS

By T. S. KEYSER, M. D., Cleveland

*The Indications for and Results of Cerebral Decompression in Acute and Chronic Brain Disease. Charles A. Elsberg. Surgery, Gynecology and Obstetrics, August, 1916.*

Diseases of the brain give rise to two classes of symptoms: first, those due to injury or destruction of brain substance; second, those due to increased intracranial pressure. As the brain is contained, in the adult, in an unyielding bony cavity, any lesion which increases the volume within the cavity must lead to increased intracranial pressure with compression of the brain. Diminution of the volume of the brain results mainly from partial emptying of the blood-vessels and squeezing out of the cerebral spinal fluid unless there is actual destruction of nervous tissue. The fluid is forced out of the cranial chamber into the spinal canal and spinal nerves. Stretching of the dura probably causes the headache and possibly the nausea and vomiting. The forcing of fluid into the sheathes of the optic nerves is followed by pallioedema, while pressure upon the brain itself causes slowing of the pulse and respiration and general interference with function. Unless the cerebral ventricles become distended by an obstruction of the iter the fluid is present in excess in the spinal canal.

The symptoms of increased intracranial pressure are either local, due to a direct effect upon parts of the brain whose functions are interfered with, or general. The patent difficulty of localizing brain lesions is largely due to the separation of symptoms caused by the lesion directly and those resulting from the increased pressure. For example, such focal symptoms as abducens palsy and nystagmus are often observed in generalized increased tension and the frequency of cerebellar symptoms in internal hydrocephalus is well known. A localized expanding lesion may give rise first to focal symptoms or first to generalized symptoms which make it impossible to diagnose the location of the lesion. As a result it is often necessary to perform a palliative operation in order to obtain relief from the increased intracranial pressure.

The means at hand for relieving intracranial pressure are decompression and lumbar and intracranial puncture. Careful

lumbar puncture may be resorted to in new growths *except those in the posterior cranial fossa*. When there is an internal hydrocephalus due to an obstruction of the aqueduct of Sylvius, ventricular puncture or puncture of the corpus callosum may be resorted to. The latter operation establishes a new communication between the ventricles and cerebral subarachnoid space. The investigations of Dandy and Blackfan have shown, however, that it is necessary to test the absorptive powers of the subarachnoid space by means of intraspinal, or better, intracranial injections of neutral phenolsulphonephthalein, for if the absorptive power of the subarachnoid space is far below the normal there is no benefit from the callosal puncture; in fact, the result is a combined internal and external hydrocephalus.

In unlocalizable new growths, a decompression should be done either for the relief of the headache and vomiting or as soon as definite swelling of the optic discs occurs. Unfortunately it is still the custom to delay operative interference until the papilloedema is very marked, frequently with the result that the vision is not benefited or may even become poorer after operation. Choked disc should be considered a late symptom of brain tumors and operative procedure instituted as soon as the diagnosis of brain tumor has been made from other symptoms.

In fractures of the skull operation is not indicated unless there is evidence of greatly increased or increasing intracranial pressure. Localized symptoms immediately following fractures do not necessarily mean a localized cerebral hemorrhage, but may be due to concussion, therefore operation should not be performed unless the symptoms become more marked with evidence of increasing intracranial pressure.

Dr. Elsberg divides the cases of fractured skull into the following classes:

"1. Patients with evidence of fracture of the vertex with few or no brain symptoms, no loss of consciousness, no twitchings, paralysis, or convulsions. These patients need not be operated upon, but they must be carefully watched for the appearance of new symptoms. At any time during the course of a number of days after the head injury, they may develop signs of cerebral compression due to slow venous bleeding or to oedema of the brain. The pulse and respirations must be taken at short intervals and the eye grounds carefully examined every few hours.



If the symptoms show a tendency to progress and are well localized to one part of the brain, the surgeon may be in doubt whether there is increasing extradural or intradural hemorrhage. An exploratory puncture of the skull may then have to be done, and it can often be accomplished under local anaesthesia. A small drill hole is made through the soft tissues of the scalp and the bone, and a blunt-pointed aspirating needle is passed through the drill hole, until the dura is reached. If aspiration fails to reveal blood, the needle is pushed through the dura and aspiration is again done. By this means we are able to determine with certainty whether there is any considerable collection of blood inside or outside of the dural sac. If the symptoms become more marked, an exploration or a subtemporal decompression may become necessary.

"2. Patients with partial or complete loss of consciousness, weakness of one side of the face, marked weakness or paralysis of the upper or lower limb of the same side or of both limbs, exaggerated tendon reflexes with ankle clonus, slow pulse and respiration. These patients have either a marked depression of bone or a large extradural or intradural collection of blood, and must usually be operated upon. The operation that must be done is either removal of depressed fragments of bone, removal of extradural extravasation of blood with ligation of a bleeding middle meningeal artery, or incision of the dura with removal of a subdural collection of blood and treatment of lacerated brain-tissue. If none of the conditions just mentioned are present, a subtemporal decompressive operation should be done.

"3. Patients with few symptoms but with hemorrhage from the ear or nose, etc.

"4. Patients in whom few symptoms are present at first, but who develop after a few days signs of increased intracranial pressure—papilloedema, drowsiness, respiratory disturbances and slow pulse. The symptoms are due either to slow venous hemorrhage or to oedema of contused brain-tissue. If the signs point to a localization of the compression of the brain, an exploratory trephining must be done over that region; otherwise a subtemporal decompression is indicated.

"5. Patients with the signs of fracture of the base. As soon as any symptoms of increased intracranial pressure appear, a subtemporal decompression must be performed.

"Through the subtemporal opening it is often possible to wash away considerable blood-clots from the base by means of an irrigation with salt solution. For this purpose the irrigating tip is gently pushed underneath the temporal lobe and the stream of solution allowed to flow in slowly. I have several times, by means of a bilateral subtemporal opening, washed out many blood-clots from the base of the middle cranial fossa."

Of 60 cases of fractured skull, 40 per cent recovered without operative interference, although many required most careful watching and in some there was doubt for many hours as to the need of a decompression. Twenty-three per cent were moribund when admitted to the hospital and their condition never improved sufficiently to allow an operation. Thirty-seven per cent were operated upon, of whom 77 per cent recovered and 23 per cent died. The deaths in every instance were due to extensive and hopeless laceration of the brain.

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**Family History in Life Insurance.**—With a family history showing one or more cases of Tb., light-weights at the younger ages at entry show a high mortality—usually the lighter the weight the higher the mortality. For applicants entering at the middle-age period, the family record has little or no influence. For entrants at 45 or over, mortality is better than standard, except for heavy-weights, when it becomes unfavorable. Finally, the Mortality Investigation Tables have demonstrated that among young people who are light-weight and have a Tb. family history, insurance cannot be written under ordinary contracts; and further, since the extra mortality among these young light-weights occurs in the earlier policy years, the problem cannot be met by granting them short-term or endowment policies; only an extra premium charge or rating up will logically meet the requirement.—*Consumptive family history in life insurance, J. L. Davis, Texas Med. News, July, 1916.*

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**Serologic Diagnosis of Tb.**—Datta devotes six pages to parallel tabulation of the findings in 60 Tb. patients with the skin tuberculin reaction, agglutination and precipitin tests, and fixation of complement by two different technics. Most of the patients had pulmonary Tb., but a few had Tb. meningitis, Addison's disease, or polyserositis. The tuberculin reaction was the most constant of all the tests in pulmonary Tb., except in the most advanced cases. The fixation of complement reaction came next in order of frequency, and was most constant in the graver cases. This renders it useful in prognosis. The agglutinin and precipitin tests never gave independent positive findings, but trailed the others, giving positive findings in the milder cases, the precipitin reaction occurring a little more frequently than the other. In diagnosis, therefore, and in prognosis, especially in pulmonary Tb., he advises applying both the skin tuberculin test and the complement fixation test, with possibly the precipitin reaction as a subsidiary test.—*Ricerche serologiche nella tubercolosi, L. Datta, Pooliclinico, July 9, 1916.*

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## REVIEW OF THE PROGRESS OF MEDICINE

By HAROLD FEIL, M. D., Cleveland

## Paratyphoid Fever

The opportunities to study paratyphoid fever — clinically, bacteriologically, and pathologically — recently in the war zone, have added much to our knowledge of the subject. The studies of trained clinicians, bacteriologists and pathologists give great weight to the numerous reports in France and England. Some of the cases studied were mild and necessitated careful bacteriological study to determine the diagnosis. Paratyphoid B was found to be the etiological factor in the greater number of cases reported by English and French observers.

*Age of Occurrences*—In 356 positive cases reported by Merklen and Trotain<sup>1</sup>, 62 were twenty years of age, 121 were between twenty-six and thirty years, 98 between thirty and thirty-five years, and 52 between the ages of thirty-five and forty-five.

*Modes of Conveyance*—Paratyphoid fever is conveyed as typhoid is, carriers being the chief source of danger. The spreading of the disease by carriers has been extensively demonstrated in the British army during the present war, troops from India, where the fever is common, spreading it among the other soldiers in France.

*Severity of the Disease*—Mortality<sup>3</sup> for cases of type "A" was under 1 per cent and slightly over 4 per cent for type "B".

*Pathology*—Dawson<sup>3</sup> studied 15 fatal cases at autopsy, 14 infected by type "B" and 1 by type "A". In the latter the findings resembled those in typhoid fever. Of the "B" cases both the small and large bowels were affected in 8, small intestine alone in 4, and the large intestine alone in 2. The mesenteric glands were invariably enlarged and hyperemic and often hemorrhagic.

Autopsies reported by Sacquepee, Burnet and Weissenbach<sup>4</sup> showed that the small bowels lesions were always located in the lower portion and at the ileo-cecal valve. The lesions were small granular projections and ulcerations from 4 to 5 mm. in diameter. Peyer's patches were similarly involved, but not so constantly, and the mucous membrane was also eroded. The ulcerations in the large bowels were constant and varied from a few at the

hepatic angle and in the descending colon to confluent ulcerations which involved the entire colon. The ileo-cecal and mesenteric glands were enlarged, reddened and firm. Hyperemia and severe edema of the lungs were constant. The liver was practically always discolored. The other viscera were but little changed. Obliterating phlebitis of the veins of the left leg was observed in one instance, and in one case cerebrospinal meningitis was found; type "A" was isolated from the opalescent spinal fluid.

The causes of death are summarized by Dawson and Whittington<sup>3</sup> as follows:

Perforation, 2 cases.

Peritonitis, from infected appendix, 2 cases.

Hemorrhage, 2 cases.

Hemorrhage and toxemia, 3 cases.

Toxemia, 4 cases.

Pneumonia, 2 cases.

Splenic abscess, 1 case.

The chief complications were splenic abscess<sup>2</sup>, pus about the appendix<sup>2</sup>, liver abscess<sup>1</sup>, lung abscess<sup>1</sup>, and empyema.

*Symptoms*—Two distinct types of the onset of the disease were observed; 60 per cent of the patients felt increasingly ill for about four days before reporting. The other 40 per cent were overcome in a few hours. Symptoms noted were headache, diarrhoea, abdominal pain, aching pains in the limbs, shivering, extreme general weakness, backache and epistaxis; at times cough, nausea and vomiting, loss of appetite, dizziness, deafness, and constipation were seen.

*Fever*—Wiltshire<sup>5</sup> divides cases of paratyphoid into four groups:

Type "A" was characterized by an average duration of fourteen days, the evening temperature reaching about 103 F., with morning remissions of 2 degrees. The temperature dropped suddenly.

In type "B" the temperature persisted seven or eight days, following the course described under type "A", dropping by lysis.

Type "C" was characterized by intercurrent relapses—the duration of the initial fever seventeen days, with nine days for the relapses.



In type "D" a greater duration was observed, with no demonstrable complications.

*Skin*—In many cases the eruption could not be differentiated from typhoid spots. In some patients the spots were larger, more raised and darker in color than rose spots.

*Diagnosis*—Careful bacteriological (blood culture or examination of stools) or serological tests are necessary to definitely determine the nature of the disease.

*Prognosis*—The average mortality was much lower than in typhoid. The mortality in the two types varied in the cases observed, the mortality of both ranging from 1 to 4 per cent.

*Prophylaxis*—Immunization should be produced by using a vaccine composed of typhoid and the two types of paratyphoid. A more severe reaction follows the use of this combination than the use of typhoid vaccine alone.

*Treatment*—No striking advances are noticeable in reviewing the treatment of the English and French observers; vaccines were used in some cases with apparently indifferent results.

1. Merklen and Trotain: *Presse Med.*, XXIV, 69, 1916.
2. Torrens and Whittington: *British Med. Jour.*, II, 697, 1915.
3. Dawson and Whittington: *Quart. Jour. of Med.*, IX, 38, 1916.
4. Sacquepee, Burnet et Weissenbach: *Presse Med.*, XXIII, 351, 1915.
5. Wiltshire: *Practitioner*, XCVI, 91, 1916.

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**Protection of New York City Against Infection Carried by Troops Returning from Texas.**—Two military regiments, the 14th Brooklyn and the 71st New York, became infected with paratyphoid fever due to the bacillus paratyphosus A, while in active service on the Mexican border. They were ordered back to Camp Whitman. While at Camp Whitman a sanitary investigation of the condition, especially of the 71st Regiment, was made, and a large amount of laboratory work done, not only for diagnostic purposes, but to determine the incidence of carriers. The laboratory work was done by the Division of Laboratories of the New York State Department of Health, under the direction of Dr. Augustus B. Wadsworth. We are indebted to Prof. Hans Zinsser, First Lieutenant, Medical Reserve Corps, U. S. Army, for the report on the 71st Regiment.

From Camp Whitman the regiments were ordered to their armories in New York, under a ten-day quarantine, prior to being mustered out of the Federal service. The quarantine was instituted as a protective measure and to give the Health Department sufficient time for further investigation, especially in relation to the 14th Regiment. This regiment was evidently badly infected and a fecal examination of every man in it was undertaken.—*N. Y. State Health Bulletin*.

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# The Cleveland Medical Journal

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All remittances to the Journal should be made payable to The Cleveland Medical Journal.

Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

Original articles are accepted for publication by this Journal only with the distinct understanding that they are contributed solely to this Journal and will not be published elsewhere as original.

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## EDITORIAL

### RED CROSS SEALS

Eight million tiny Red Cross Christmas Seals will be loosed in this city before December 1 to aid in the fight against tuberculosis.



The seals will be sold by mail only again this year, the sale being conducted by the Red Cross Christmas Seal Committee of the Anti-Tuberculosis League, of which Dr. R. A. Jewett is secretary.

At headquarters, 501 St. Clair avenue N. E., a corps of girls already are busily engaged in preparing the avalanche of letters of appeal which will be sent out beginning November 15.

Under the direction of the National Association for the Study and Prevention of Tuberculosis, Tuberculosis Week will be held this year from December 3rd to 10th.

In addition to Tuberculosis Sunday the national association has provided for two special days to be celebrated in all parts of the country on stated dates.

These are Medical Examination Day, Wednesday, December 6th; Children's Health Crusade Day, Friday, December 8th.

Medical Examination Day will be the second annual effort on a national scale to induce every one, sick or well, to have an annual physical examination.

This does not necessarily mean that all who apply need be examined on this day. It is expected that the appeal will be answered, as it was in 1915, by such a large number that this will not be possible.

Appointments can be made, however, for any other day. In the case of factories, stores and offices, the employees of which are not at present examined periodically, the beginning of such a system for protecting the health of the workers would be appropriate to the day.

The intention is to popularize a movement which thousands of persons have already found to be one of the best ways of preventing illness.

### INFLAMED EYES

Physicians in this city are still deplorably lax in reporting inflammation of the eyes of new-born babies. Records of Miss Myrtle L. Wayne, Inspector of Midwife Practice, show that many more midwives than physicians are complying with the law by reporting at once.

One explanation of this may lie in the fact that the use of silver nitrate frequently causes slight inflammation of the infant's eyes. In such cases the responsible midwife promptly reports the case. On the other hand, some physicians with similar cases believing they recognize the inflammation as that caused by the use of the silver nitrate, are prone to delay reporting the case until they themselves are convinced that it is inflammation of a more serious character.

While in some cases this practice may be perfectly safe, due to the medical intelligence of the physician in charge, nevertheless  
IT IS NOT COMPLYING WITH THE LAW.

### GOLDS! GRIPPE! PNEUMONIA!

The October number of the Health Division's monthly bulletin, *Your Health*, has just been issued with timely warnings regarding the danger from colds, grippe and pneumonia. It contains material which mothers and teachers will find valuable as a basis for health talks for little children. Copies of this pamphlet may be had free of charge upon application to the Bureau of Health Education, Division of Health.

R. H. B., Jr.

**Poliomyelitis in This and in Neighboring States.**—Up to the last available date of record there have been in New York City and the States of New York, Connecticut, Massachusetts, New Jersey and Pennsylvania, the following number of cases of poliomyelitis and deaths therefrom:

	Cases	Deaths
New York City (Sept. 30).....	9,029	2,286
New York State, excl. of New York City (Sept. 14).....	2,785	318
Connecticut (Sept. 18).....	677	Not reported
Massachusetts (Sept. 19).....	678	95
New Jersey (Sept. 19).....	3,495	775
Pennsylvania (Sept. 20).....	1,278	313

17,935      3,787

—N. Y. State Health Bulletin.



## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Ammonium Chloride:** Warren Coleman, in the October number of the *American Journal of the Medical Sciences*, states that ammonium chloride is used so extensively in the treatment of respiratory affections that it is important to determine whether it does or does not possess an expectorant action. The majority of text-books on therapeutics recommend ammonium in the treatment of respiratory diseases. On the basis of a few experiments upon lower animals, however, it has been denied that the drug in therapeutic doses acts as an expectorant upon patients suffering from bronchitis. In view of this doubt, Coleman decided to reinvestigate the action of the drug upon bronchial secretion in man. In his observations on man in cases of bronchitis, mild and severe, in doses of one-half to five grains every two hours, he found that whenever the drug was dropped the sputum became less abundant, more tenacious and more difficult to expel, and a sensation of dryness or tightness developed in the chest. When the drug was resumed the opposite effects were observed. His conclusions are that: Clinicians generally believe that ammonium chloride is an expectorant. This action has been denied, however, on the basis of experiments on laboratory animals in which important factors were not controlled. The action of the drug has been reinvestigated on patients suffering from acute and chronic bronchitis. The objections which have been raised to such experiments are not fundamental. The excretion of ammonium chloride as such in the bronchial secretions has been proved. Subjective observations have shown that ammonium chloride facilitates expectoration. On the ground of these facts it is claimed that ammonium chloride is an expectorant within the definition of the term. It probably acts by increasing the water of secretion, and softening the mucus.

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**Pleurisy:** A. D. Bush, in the *New York Medical Journal* for October 14th, considers the therapeutics of pleurisy. In the plastic type of pleurisy the leading need is the relief of the sharp distress. For this purpose two measures seem feasible—counterirritation and some sedative of the opiate type. Counterirritation here assumedly benefits by increasing reflexly the circulatory exchange in the pleural area affected. Almost invariably in pleurisy and especially of the dry type there are localized areas of tenderness in the skin. From data obtained the reasoning is proposed, and corroborated in part by clinical experience, that superficial irritation of areas of skin tenderness will be followed by an improvement in the correlated affected area, the improvement being assumedly due to more rapid removal, through accelerated circulation, of the inflammatory. But whatever may be the correct explanation, physicians usually find that sinapisms over associated areas of tenderness give remarkable alleviation in pleurisy. For immediate relief an opiate may be demanded, and he here thinks the powdered opium more efficient than morphine, and also advises adding salicylate of sodium to the powdered opium. Usually two or three doses of this combination will control such distress as the patient feels unable to bear unaided; but its continuance is not advisable. Other effective measures during convalescence are rest in bed, with limitation of movements of the affected side. Quinine has its advocates in the treatment of pleurisy, but its usefulness here may well be questioned. In pleurisy with effusion the evidence shows little reliance to be placed on drugs. An effusion of the milder sort is usually absorbed, but if at all menacing, requires surgical interference. The average physician probably thinks immediately of potassium iodide as the drug *par excellence* for promoting absorption of exudates, but there is little to justify this opinion.

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**Strychnine:** Robert A. Hatcher and Maurice J. Smith, in the *Journal of Pharmacology and Experimental Therapeutics* for November, contribute an article on the elimination of strychnine by the kidneys. It is generally held that the treatment of strychnine poisoning in man demands among other measures the administration of diuretics for the purpose of hastening elimination of the poison by the kidneys, but while there have been many investigations of this question, our knowledge of the subject is still unsatisfactory. Hatcher and Smith conclude as the result of their experiments that: 1. Strychnine often appears in the urine, within a few minutes after it is taken, but only in the merest traces, and one should distinguish sharply between the prompt appearance of the merest traces and the rapid rate of elimination that accompanies excessive diuresis.

2. Large doses of strychnine sulphate may be introduced intravenously in dogs without the appearance of more than traces, in the absence of copious diuresis, within periods of  $2\frac{1}{2}$  to  $5\frac{1}{2}$  hours.

3. In every one of our 17 experiments on dogs, in which diuresis was actively induced, the strychnine was eliminated at a relatively rapid rate by the kidneys, but nevertheless in none of the 14 experiments in which the amount of strychnine administered exceeded the average fatal dose by 20 per cent or more, was the amount eliminated in the urine during copious diuresis equal to the excess over the average fatal dose; in other words, the renal elimination alone was never sufficient to save the animal's life.

4. The results of our investigation of the elimination of strychnine by the kidneys in dogs are in harmony with the results reported by others who have studied its elimination in man.

5. It is possible that diuresis may contribute to the successful therapeutic treatment in those cases where the amount taken is only slightly in excess of the minimal dose that would be fatal in the absence of treatment, or where the absorption of the poison is very slow, but it must play a minor part in the treatment of poisoning where very large doses of strychnine have been taken (as in the case reported by Hewlett) and in such cases artificial respiration and general anesthesia with ether and chloroform must continue to be our chief reliance. Hydrated chloral would seem to be contra-indicated in such cases, because of its tendency to exert its depressant action after the need for it has ceased.

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**Crataegus:** J. A. Hofmeier, in *American Medicine* for September, writes concerning angina pectoris, with especial reference to the use of crataegus oxyacantha in its treatment. The term "angina pectoris" is often mistakenly used as the name of a disease, rather than that of a group of symptoms caused by various metabolic disturbances. There is no doubt more than one causative factor at work to cause the symptom complex which for want of a better name we call angina pectoris. Von Leube believes its origin is to be probably attributed to the sudden anemia of the myocardium predisposed by arteriosclerosis of the coronary arteries and the thereby impeded blood supply to the myocardium, and perhaps due to vascular spasm, hyperirritability of the cardiac nerves, and toxic influences. He refers to the usual drugs employed, opiates, bromides, nitroglycerin, etc., and then gives his personal experience with crataegus, which he has found to be almost uniformly of aid. He has used the specific tincture of crataegus oxyacantha made by the Lloyd Bros. The dose used in the cases reported were ten or fifteen drops as the initial dose, increased if required. He believes the drug is a valuable sedative and regulator of the heart and blood vessels. It slows the heart action without any depressant effect, is non-poisonous, and can be given without fear of digestive disturbance, as it is very agreeable to the taste. Its action is slow unless given in large doses; he thinks it wiser to give it in steadily increasing doses until the desired effect is obtained, and



then maintain that dose for an extended period, which should be determined by the results. Occasional doses of digitalis in combination with crataegus adds to the efficiency of both drugs, especially if any nephritic involvement or cardiac dilatation exists. He has seen transient albuminuria diminish or disappear under the use of crataegus, if present in these cases.

**Peritonitis:** The *Therapeutic Gazette* for September thus comments editorially upon opium and peritonitis: Most medical men who graduated from thirty to forty years ago will recall the fact that their teachers in surgery medicine and therapeutics were insistent upon the value of opium in the treatment of peritonitis and this was particularly true in the Philadelphia and New York schools, largely through the influence of Doctor Alonzo Clark, who gave opium for effect and without regard to the number of grains. The editor states that he has heard skilful surgeons state publicly that he who gave opium in peritonitis was guilty of malpractice, and also heard others state with equal positiveness that he who did not give saline purges in peritonitis was equally guilty; but with the whirligig of time, Crile now comes forward with a strong endorsement of opium, stating that the common cause of death in peritonitis, as in any acute infection, is exhaustion which is due to the expenditure of energy in combating the infection; the destructive effects of the resulting acid by-products; the diminished intake of food, and insufficient sleep. He emphasizes the latter factor, since in peritonitis the pain is severe, and in the acute types sleep is rare and fitful. He therefore advocates, for the purpose of diminishing the absorption of poisons and affording drainage, operating nitrous oxide, and local anesthesia combined, placing the patient in the Fowler position, and giving physiological rest to the intestines. In order that the latter may be obtained, he advises the free use of opium, and thoroughly endorses Alonzo Clark's original statement that the dose should be measured by its effect upon the respiratory rate and not in grains. Crile also points out that this treatment, if properly pushed until the respirations are markedly slowed, may by reason of the relaxation of the facial muscles mislead the physician in thinking his patient is worse when he is really better. He asserts that laboratory findings have demonstrated that opium protects the brain, the adrenals and the liver against the damaging effects of toxin, and he publishes a plate showing photomicrographs of those organs exposed to infection with and without opium. He also publishes a plate illustrating, as he thinks, the difference in the appearance of the brain cells with and without sleep after they have been exposed to a toxic agent. The point is that clinicians of forty or fifty years ago, while they may not have been able to explain the results obtained by heroic medication, nevertheless were seemingly accurate in the deductions which they made.

**Headache:** The *Medical Record* of October 7th treats editorially of the daily morning headache of hypertension. Daily morning headaches have been said to occur under a variety of conditions. In the malarial days of New York it often meant "dumb ague" and responded readily to quinine. Occurring early in the forenoon in a man in his forties, it betokened the need of glasses. Waking early with a headache could mean alcoholism or uremia. There is much reason to look with skepticism on this pigeonholing arrangement. There is reason to believe, for example, that headaches "due to uremia" may often arise simply from hypertension, or conditions which cause or follow the latter. For fifteen years Rathery kept track of morning headaches, and associated them with interstitial nephritis of scarlatinous origin, syphilis, nicotineism, and excess in protein consumption. As accessory factors he recognized sedentary occupation, excessive mental labor, and great responsibility. Renon, in an equally long observation period, in which Pachon's oscillogometer was used, found the presence of excessively high tension. This headache may

involve the entire cranium, or only portions of it (it is seldom occipital). It comes on early in the morning and may waken the patient at 5 or 6 A. M. It is intense, and he does not feel like getting up. It has a maximum at 9 or 10 A. M. and may disappear at noon. The patient, unfitted for labor, or even for coherent thinking, rushes for the headache powder or equivalent. Meanwhile he becomes the victim of the drug and its toxic effects, until the remedy is worse than the disease. Such a man shows an enlarged left heart, accentuated second sound, and polyuria, with traces of albumin. In other patients there is only a dull morning headache, augmented on slight mental or physical exertion. The condition is progressive and Renon has never seen a recovery. Often death occurs shortly after the diagnosis is made. Nevertheless intensive treatment will give relief. First tobacco and the coal tar derivatives must be shut off. Mental rest must be ordered. For a week at least the patient must go on a milk regimen as the sole diet. Then milk days, and live for the rest on vegetables and fruits for two weeks or more. Then a light low protein regimen for several weeks. If the blood tension has not come down, and headache still persists, Renon advises certain harmless hypotensives, as thiosinamine. Iodides are given only if a syphilitic base is shown. Otherwise they aggravate the symptoms.

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**Atropine:** The September number of the *Medical World* states that atropine is one of the most remarkable medicines in the materia medica. Every man who has studied it ends by making it little short of a panacea for the relief of pain. Its power of increasing capillary attraction and dilating the capillaries of the skin especially renders it *par excellence* the remedy for every form of hemorrhage, active or passive, acute, subacute or chronic, and all forms of capillary bleeding. All the exceptions which have been reported to him are in the case of hemorrhages so severe and sudden that death has occurred before atropin has had time to act. One or two cases of this sort occurred where a large pulmonary artery was eroded, in the later stage of tuberculosis; also a few cases of sudden and fatal hemorrhage in intestinal ulceration in typhoid fever. All other cases of hemorrhage of every description have been remedied by a full dose of atropine, enough to dilate the cutaneous capillaries and thereby flush the face. Other applications may be made of this power of dilating the capillaries, as stopping the convulsions of epilepsy in the first stage, and relieving the nerve centers of the intense hyperaemia of the onset of the hyperacute infectious fevers. He has used atropine in full doses in the eruptive fevers when the patient was overwhelmed with the toxins at the start, and the eruption failed to come out. Before he learned to use this remedy, his patients usually died. The second principle in applying atropine is its power of dissipating spasm. Pertussis, chordee, asthma—there is scarcely a spasmodic malady in the category which does not acknowledge the domination of atropine, although it sometimes fails. It succeeds when vagus irritation is the cause of the asthma by restraining the nerve. Colics give way to its influence and the spasm of the circular fibres of the bowel that is present as a factor in many forms of obstruction relaxes—so that many a clinician looks first to atropine, in his cases of strangulated hernia, and only resorts to the knife when the lesion is not alone spasmodic. Many hernias can be reduced after a hyperdermic of 1/50 grain of atropine sulphate. The choleraic symptom-complex, in cholera asiatica, infantum or morbus, denotes an intense irritation of the gastrointestinal terminations of the vagus, and atropine is exactly the antagonist of such irritability—a full dose ends the cholera and leaves us free to combat the causes. In treating habitual constipation, atropine is wrongly applied in most instances. Very small doses relax spasm of the circular muscular fibres and paralyze inhibition. With one exception every combination he has seen in manufacturers' lists has too much atropine.

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### NEW AND NONOFFICIAL REMEDIES

**Barium Sulphate for Roentgen Ray Work.**—Barium sulphate freed from soluble barium salts. This salt passes through the system unchanged and, because of this, is used in taking Roentgen ray pictures of the stomach and the intestines.

**Barium Sulphate—Squibb, for Roentgen Ray Work.**—A brand complying with the standards for barium sulphate for Roentgen ray work. N. N. R. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Oct. 7, 1916 p. 1091).

**Chlorazene Tablets, 4.6 Gr.**—Each tablet contains 4.6 grains chlorazene (sodium paratoluenesulphochloramine). The Abbott Laboratories Chicago (*Jour. A. M. A.*, Oct. 21, 1916, p. 1229).

During October no articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies.

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**General Funston Against Segregation.**—The efforts of the San Antonio, Texas, Law Enforcement League to effect the closing of the recently established segregated district in that city brought out the statement from certain interests that General Frederick Funston, U. S. A., had refused to station troops in Austin unless the segregated district was re-established.

In response to an inquiry as to the truth of this charge the following letter was received by the president of the San Antonio society:

Headquarters Southern Department, Fort Sam Houston,  
September 28, 1916.

Rev. Charles E. McStravick:

Referring to our conversation of yesterday on the subject of my views as to the desirability or undesirability of the existence of "red-light districts" in towns near which troops are stationed, I have to say that I am very glad, indeed, of this opportunity to deny absolutely and unequivocally certain views that are said to have been held by me on that subject. I understand that it has been claimed that I viewed with tolerance the existence of these places because I thought them necessary for the contentment and well being of the soldiers. I assure you that my opinion is exactly the opposite and that hereafter, so far as I can have any influence over the stationing of troops along the border, I am going to give the preference to those cities and towns where the best moral conditions prevail. I have never in all my life held or expressed any views that conflict with these. Very sincerely yours,

(Signed) FREDERICK FUNSTON.

General Funston also informed the Mayor of San Antonio that he would expect him to remedy forthwith the very objectionable conditions that had sprung up in the segregated district. The Mayor's promise of immediate compliance points to a general clean-up in San Antonio.

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**Progress in Therapeutics of Tb.**—During the year 1915 there has been no addition to our knowledge of bacterioimmuno therapy. Deyke and Much believe that the tbc. individual produces antibodies against various parts of the tubercle bacillus, such as the fat of the capsule and the different proteids of the bacillary body. They split the bacilli into component parts, which they call partial antigens. They find out which antibodies are lacking in the body by means of complement fixation or intracutaneous tests with these antigens. They then attempt to stimulate these absent antibodies by subcutaneous injections of the respective antigens. Some good results have been reported. As regards tuberculin, it is still considered an adjunct, but not a cure. Marmoreck and Maragliano still recommend passive immunity.

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## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred and thirty-first regular meeting of the Academy of Medicine was held Friday, September 29, 1916, at the Cleveland Medical Library, the First Vice-President, Dr. R. K. Updegraff, in the chair.

In opening the meeting Dr. Updegraff stated that the President, Dr. Bruner, was unable to attend because of sickness. He was happy to say that the doctor was recovering rapidly and would soon be at his work.

The minutes of the last meeting were read and approved.

The minutes of the Council meeting of September 12th were read and approved.

The Academy then proceeded to the consideration of the proposed amendments to the Constitution as published in the *Cleveland Medical Journal*, July, 1916, page 498.

The amendments were taken up in the order of the topics they affected:

Amendments changing the method of nominating and electing the officers of the Academy—

Article IV.

Chap. V. Secs. 3, 4, 5, 6, 7.

Chas. VI. Secs. 1, 2, 3-(d).

Chap. IX. Sec. 2.

Chap. XII. Secs. 1, 2 (new order of business made necessary by above changes).

Motion was made and seconded to adopt these amendments. Dr. Bernstein suggested that the nominating ballots ought to give a list of the officers for the current year in order that a member might know who was in office. He desired to make an amendment incorporating this. The Chair ruled, however, that the amendment was out of order, and that it would be possible for what he wished to be done without special mention in the Constitution.

The amendment was put and carried.

Change in election of Secretary-Treasurer:

Chap. V. Sec. 5.

Chap. VII. Sec. 4.

Motion was made and seconded to adopt. Dr. A. W. Lueke spoke against the amendment. The Secretary explained the reason as he understood it for the proposed change, pointing out that it had advantages and certain objections.

The amendment was put and carried, with one dissenting vote.

Modifying the statement of eligibility to membership:

Chap. I. Sec. 1 (Active).

Chap. I. Sec. 3 (Associate).

Chap. II. Sec. 2 (Honorary).

Motion was made and seconded to adopt. Dr. W. H. Weir pointed out that this amendment was a concession to graduates in medicine who happened to be laboratory men. It was also pointed out that this change did not prevent a graduate in medicine, though not in practice, from becoming an active member if he so desired.



The amendment was put and carried.

Rewording section dealing with the time of suspension and dropping of members:

Chap. III. Sec. 4.

Chap. VI. Sec. 3-(g).

Motion was made and seconded to adopt. The motion was put and carried.

Increasing dues of Non-Resident and Associate Members:

Chap. VI. Sec. 2.

The motion was made and seconded to adopt. The motion was put and carried.

Rewording and rearranging the statement of the duties of the Secretary-Treasurer, transforming the noting of the death of members from the Membership Committee to the Secretary-Treasurer:

Chap. VI. Sec. 3-(c).

Chap. VIII. Sec. 2-(b).

The motion was made and seconded to adopt. The motion was put and carried.

Authorizing change of time or place of meeting:

Chap. VII. Sec. 3-(a) and -(b).

The motion was made and seconded to adopt. The motion was put and carried.

Restating the power of referendum on questions before the Council:  
Article VI.

Chap. VII. Sec. 5.

The motion was made and seconded to adopt. The motion was put and carried.

Correction of wording:

Chap. III. Sec. 1.

The motion was made and seconded to adopt. The motion was put and carried.

The chair then entertained a motion to approve the amendments as a whole. Carried.

The regular program follows:

1. **Blastomycosis.**
2. **Mycosis Fungoides.**
3. **A Probable Rhinoscleroma.**

A report and discussion of histo-pathological changes, by A. A. Eisenberg, M. D.

Dr. Arthur A. Eisenberg presented the paper of the evening and gave a very interesting discussion of his subject.

Dr. Hamann in discussion gave a brief summary of the clinical history of the cases, touching upon the occurrence of actinomycosis in the appendix. Dr. H. N. Cole discussed the microscopic and histological findings in mycosis fungoides. Discussion was closed by Dr. Eisenberg, who then showed the histological specimens to those desiring to examine them.

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The one hundred and thirty-second regular meeting of the Academy of Medicine was held Friday, October 20, 1916, at the Cleveland Medical Library, the First Vice-President, Dr. R. K. Updegraff, in the chair.

The minutes of the last meeting were read and approved.

The minutes of the Council meeting of October 10th were read and approved.

The Secretary read a communication from Dr. H. L. Sanford, Chairman of the Civic Committee, requesting that the Academy act upon the following resolution:

"BE IT RESOLVED—That the Academy of Medicine of Cleveland in session October 20th, 1916, being cognizant of the great need for further facilities for the hospital and sanitarium care of tuberculosis patients in the City of Cleveland, does hereby most heartily approve of the ordinance recently passed by the Cleveland City Council authorizing a bond issue of \$100,000.00 for the purpose of increasing the number of beds at the Warrensville Sanitarium for the care of tuberculous patients and does hereby most earnestly urge his Honor the Mayor to sign this ordinance; and

"BE IT FURTHER RESOLVED—That a copy of this resolution be sent to the Mayor by the Secretary of the Academy."

On motion to approve by Dr. F. E. Bunts, seconded by Dr. Fred Aeberli, the resolution carried.

The regular program follows:

**1. Some Observations on the Use of Blood Transfusion as a Therapeutic Measure, by Arthur B. Eisenbrey, M. D.**

There are many methods of blood transfusion described of which but few are practical and successful. Among the recent methods we have Dr. Crile's method of transfusion, which is an anastomosis of artery and vein. This method is quite successful but requires skillful technique. Dr. Lindeman, of New York, was the first to use the syringe-cannula method of transfusion. Special needles are inserted into the vein of donor and recipient. The blood is drawn off into 20 c.c. record syringes and injected. It requires very careful team work in order to perform a perfect transfusion. Shortly after the Lindeman method was introduced, Dr. Unger devised the three way cannula method. A three-way valve is used in this method by which cannulae and syringe are brought into connection. Dr. Lewison uses the sodium citrate method, which is fairly satisfactory. The Unger and Lindeman methods are by far the best and can be used to good advantage, since there is very little operating to be done and there is practically no danger of clotting or hemolysis.

Regarding donors, it is best to have one of the family, since there is less danger of any incompatibility arising, i. e., hemolysis or agglutination. If, however, a stranger is to be used as donor, careful tests must be employed for hemolysis, agglutination and syphilis. The tests are simple and should always be performed unless an emergency arises.

In blood transfusions we wish to accomplish the replacement of blood and also to produce serum reactions in certain diseases. Where there is a sudden loss of blood the patient's resistance is markedly depleted, and a successful blood transfusion will tide the patient over the crisis. In chronic anemias where the powers of blood regeneration are diminished, the necessary stimulus can be obtained by a good transfusion. Hemophiliacs are benefited but temporarily, the blood acting as a hemostatic.

Blood transfusions in malena neonatorum and some of the purpuric conditions is practically a specific, however, in pernicious anemia only temporary relief is obtained. In some acute infections, particularly in acute endocarditis, repeated transfusions of small amounts of blood which has been immunized against a particular organism proves to be quite beneficial. The dosage in transfusion is very important. If we



have an acute hemorrhage, then large quantities are desirable, but for therapeutic effects the smaller doses repeated frequently are of better advantage.

### Discussion

F. C. Corrigan, M. D.:

Referred to the first blood transfusion performed in this city and deplored the fact that blood transfusion, which is such an efficient therapeutic measure, has not been used more extensively.

At the close of the meeting Dr. Eisenbrey showed the Unger apparatus and explained the details of its use.

#### 2. Hirschsprung's Disease and Other Dilatations of the Colon, by C. A. Hamann, M. D.

Hirschsprung's disease is a congenital condition in which we have a hypertrophy or an overgrowth of the colon. There is no mechanical obstruction in Hirschsprung's disease; however, obstruction comes on subsequently. The circular musculature of the colon is hypertrophied, in some instances acquiring a considerable thickness. This hypertrophy of the musculature is not uniform throughout the colon, but there are areas where the colon is very thin and transparent. In some cases we have a regional hypertrophy, so that normal intestine may exist between two dilatations. This is the so-called undulating form of Hirschsprung's. The other dilatations of the colon which we see occasionally are due to some mechanical obstruction, such as imperforate anus or recto-vaginal fistula. The dilatation and enlargement is merely mechanical and not inherent in the colon itself. Some of the most frequent symptoms and signs associated with Hirschsprung's disease are the markedly enlarged abdomen, chronic intestinal obstruction, the bowels move about once a week, loss in weight; vomiting is rarely seen in these cases. Cathartics and enemas are usually slightly effectual.

In examining these patients we invariably find large fecal masses present in the colon, which is readily palpable on rectal examination. In some cases the dilatation is very marked and may cause a displacement of the heart.

In the treatment, a two-stage surgical procedure is resorted to. The preliminary operation consists in a colostomy. The colon is then cleansed by irrigation. After a week or two the enlarged portion of the colon is resected. The mortality following the two-stage operation is very low.

In connection with his paper Dr. Hamann exhibited the specimens of enlarged sigmoid and rectum from these patients. He also showed two specimens: one showing a uniform dilatation (not Hirschsprung's disease) occurring in the large bowel above a stricture, the other showing the undulatory form often seen in Hirschsprung's disease.

Discussion of the paper by Dr. R. K. Updegraff was closed by Dr. Hamann.

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The one hundred and eighteenth regular meeting of the Clinical and Pathological Section of the Academy of Medicine of Cleveland was held in conjunction with the Lakeside Hospital Medical Society, Friday evening, October 6th, 1916, at Lakeside Hospital.

The regular program follows:

#### 1. Case of Scurvy, by H. A. Gerstenberger, M. D.

Child shows a typical picture of scurvy rather than rickets. The child has had convulsions and at present is quite irritable. He likewise has marked signs of rickets. The X-ray plates show an increase in the amount of calcium. On this basis we have administered calcium and cod-liver oil, but the scurvy did not subside.

**2. Report of a Case of Strangulated Gangrenous Appendix in a Femoral Hernia, by Allan Graham, M. D.**

Dr. Graham reports a case of a man sixty-five years of age complaining of a swelling in his right groin, pain accompanied by nausea or vomiting. The mass was present below Ponpart's ligament, and was not reducible. Operation revealed a hernial sac containing free fluid and a gangrenous appendix.

Case resulted in recovery.

**3. Presentation of a Case of Carcinoma of the Urinary Bladder, and Treatment, by L. B. Sherry, M. D.**

In this case the entire urinary bladder was removed, and the ureters were transplanted into the colon. Case resulted in recovery.

**4. Ulcer of the Stomach with Hemorrhage, by C. A. Bowers, M. D.**

The patient had a very severe hemorrhage from a gastric ulcer, while undergoing medical treatment. A blood transfusion was done and at the same time a gastro-enterostomy was performed. Shortly after the operation she lost a large quantity of blood. Immediate blood transfusion was resorted to. A week later another transfusion was performed, and the pyloric region of the stomach resected. Case resulted in recovery. Since operation patient gained in weight and suffers no discomfort.

**5. Presentation of Case of Haemo-Pneumothorax, by H. V. Paryzek, M. D.**

The patient has an extensive malignancy of his mediastinum, right lung and retroperitoneal lymph glands. A small gland was excised for histological study; microscopically it reveals a colloid carcinoma. Three hundred c.c. bloody fluid were withdrawn from the right pleural cavity on two different occasions. A pneumothorax was demonstrated before a thoracentesis was performed.

**6. Presentation of a Case of Cerebellar Cyst, by J. P. Tucker, M. D.**

Case presented showed all the typical signs of a cerebellar tumor, dizziness, headache, vomiting, ataxia, choke, disk, Barrany's pointing test was positive on the left. Operation revealed a large cyst on the left side. Subsequently the patient still has a slight degree of choke disk. The Barrany test is positive. However, the patient's subjective symptoms are diminished.

**7. Hydatiform Moles, by W. H. Weir, M. D.**

Three specimens of hydatiform moles were present. The patients from whom these specimens were removed all recovered. The hydatiform mole is a very uncommon condition and may readily undergo malignant change. This malignant degeneration can only be recognized by a very careful histological examination.

**8. The Origin and Distribution of Bilirubin in the Body and Its Diagnostic Significance, by C. F. Hoover, M. D.**

In all cases of pernicious anemia we find biliary elements in the blood plasma. Both elements are always present, i. e., salt and pigments. In pernicious anemia we have an extensive hemolytic process going on in the body. The presence of bile in the plasma is very good evidence of a hematogenous jaundice.

We have another instance of the hematogenous production of bilirubin in cases of cerebral hemorrhage. The blood is mixed with the spinal fluid, without any hemolysis. Twenty-four hours after the hemorrhage, the spinal fluid will be distinctly straw-colored; no hemoglobin is present. However, the tests for bilirubin are positive. This same phenomenon has been produced experimentally.

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## COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine held Tuesday, October 10, 1916, at the University Club, the following members were present:

Drs. Geib, Bernstein, Houck, Dexter, Weir, Sawyer, Sanford, Selzer, J. J. Thomas, J. E. Tuckerman and Updegraff.

Dr. Updegraff presided in the absence of Dr. Bruner.

The minutes of the last meeting were read and approved.

On motion the following were elected to membership in the Academy:

*To Active Membership*—R. P. Bell, C. L. Ruggles, J. L. Faragher, N. E. Friedman, F. H. Hooper, Bernard B. Neubauer.

*To Non-Resident Membership*—L. E. Brown, Akron, O.; R. B. Chamberlin, Twinsburg, O.

On motion the names of the following applicants for active membership were ordered published:

Wm. E. Dwyer, Arthur A. Eisenberg, Ignatius W. Hatsuka, P. J. Opperman, Adam E. Szozytowski.

On motion Dr. Arthur B. Eisenbrey was transferred to active membership in the Academy.

On motion the resignation of Dr. James D. Hobson, to take effect as of January 1st, 1917, was accepted. Dr. Hobson has permanently removed from the city.

A letter from Dr. H. E. Handerson tendering his resignation because his health no longer permitted him to share in its activities or to enjoy its privileges, was read. On motion Dr. Handerson was transferred to non-active membership in the Academy.

The Secretary announced for Dr. Bruner the appointment of Drs. C. L. Cummer, J. E. Cogan and W. I. LeFevre as tellers for the annual nomination and election.

On motion the President was authorized to fill the vacancy on the Auxiliary Red Cross Committee.

A letter from Dr. F. C. Herrick declining appointment to the Chairmanship of the Legislative Committee was read. The appointment of a chairman for that committee was made the first order of business at the next meeting.

On motion the Secretary was ordered to have the audit made as of December 1st.

The Secretary asked instruction as to the publication of the new Constitution and By-Laws. On motion the matter was laid on the table until after the annual election.

Dr. H. L. Sanford reported for the Civic Committee that he had had several meetings with a committee especially called together by the United States Internal Revenue Office for considering the lack of facilities for treating narcotic patients and certain difficulties arising therefrom. He stated that considerable progress was made toward a more rational method of dealing with these patients.

On motion the Secretary was asked to invite Mr. Wise, of the Internal Revenue Office, to the next meeting of the Council.

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## BOOK REVIEWS

**Guide to the Diseases of Infancy for Students and Practitioners.**

By Dr. Walter Birk, Private Docent in Pediatrics, University of Kiel. Authorized translation and adaptation from the German by Frederick W. Schultz, M. D., Assistant Professor of Pediatrics, University of Minnesota, with twenty-five illustrations in the text. First edition, cloth, 329 pages. Rebman Company, 141 West 36th street, New York.

Regardless of the fact that a considerable number of English and American texts dealing with the diseases of infancy and childhood have appeared during the past few years, it is nevertheless a distinct pleasure to read this small volume.

In general make-up it differs greatly from English and American texts on the same subject. As the author of the German edition states in his preface, the work is intended to have a purely practical standpoint. The theoretical consideration of disease is only indulged in so far as necessary for the understanding of certain disease complexes, while the symptomatology and therapy are particularly emphasized. Strict adherence to the above furnishes a book especially adapted for the general practitioner.

The volume is divided into four parts.

Part I, containing a concise discussion on Feeding of the Normal Infant; The Physiology and Pathology of Lactation; Wet Nursing; Food of the Infant; Metabolism and Digestion; and the Physiologic Development of the Infant During the First Year of Life.

Part II is divided into chapters on The Peculiarities of the New Born Infant; The Pathology of the New Born Infant, and a short discussion on the Premature Infant.

Part III contains a discussion on the classification, symptomology and treatment of the alimentary disturbances. This section is particularly noteworthy because in the great majority of our English texts on the alimentary disturbances very little attention is paid to the views of continental Europe, while here we find a concise discussion of those views without theoretical consideration.

Part IV deals with the commoner diseases of infancy.

While occasional statements may be questioned, on the whole the work furnished an abundance of information on the subjects considered and admirably fulfills its stated purpose.

It is hoped that in the next edition the not infrequent typographical and editorial errors will be corrected.

H. O. R.

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**Physiological Chemistry.** A Text-book and Manual for Students. By Albert P. Mathews. Second edition, XV, 1040 pp. Wm. Wood & Co., New York. Cloth, \$4.25.

The second edition of this already well known text-book does not differ greatly from the first, which it follows by only one year. Mistakes have been corrected, the results of more recent investigations included, and the section on colloids in part rewritten. This is unquestionably the nearest approach to a satisfactory text-book of biochemistry that has yet appeared.

C. H. F.

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**ACKNOWLEDGMENTS**

**Pharmacology and Therapeutics.** For Students and Practitioners of Medicine. By Horatio C. Wood, Jr., Professor of Pharmacology and Therapeutics in the University of Pennsylvania; Second Vice-Presi-



dent of the Committee of Revision of the U. S. Pharmacopoeia. Second edition. J. B. Lippincott Company, Philadelphia and London, 1916. Price, \$4.00

**The Practical Medicine Series.** Volume VI. General Medicine. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, assisted by Burrell O. Raulston, A. B., M. D., Resident Pathologist, Presbyterian Hospital. Series 1916. The Year Book Publishers, Chicago. Price of this volume, \$1.50.

**Medical Record Visiting List for 1917.** Physicians' Diary for 1917. Newly revised. William Wood & Company, New York. Price, \$1.50.

**Guide to the Diseases of Infancy.** For Students and Practitioners. By Dr. Walter Birk, Private Docent in Pediatrics, University of Kiel. Only authorized translation and adaptation from the German. By Frederick W. Schultz, M. D., Assistant Professor of Pediatrics, University of Minnesota. With twenty-five illustrations in the text. Rebman Company, New York, 1916. Price, \$3.00.

**The Essentials of Chemical Physiology.** For the Use of Students. By W. D. Halliburton, M. D., LL. D., F. R. S., Fellow of the Royal College of Physicians; Professor of Physiology in King's College, London; Author of "Text-book of Chemical Physiology and Pathology." Ninth edition, with colored plate. Longmans, Green & Co., London and New York, 1916. Price, \$1.75.

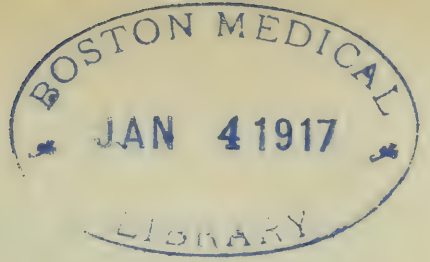
**The University of the Philippines.** Catalogue 1915-1916. Announcements 1916-1917. Bulletin No. 6. Manila Bureau of Printing, 1916.

**Court Decisions Pertaining to the Public Health.** Reprint No. 342 from the Public Health Reports. May 30, 1913, to December 31, 1915, and July 14, 1916. Government Printing Office, Washington, 1916.

**The Rockefeller Foundation International Health Commission.** Second Annual Report, January 1, 1915—December 31, 1915. New York, 1916.

**The Bulletin of the Department of Public Charities.** Published quarterly, January, April, July, October, by the Department of Public Charities, Municipal Building, New York City. Vol. I, No. 1, October, 1916. Subscription price per year, \$2.00. The present number represents the first issue of the Bulletin of the Department of Public Charities of the City of New York. Hon. John A. Kingsbridge, the Commissioner, and First Deputy Commissioner Henry C. Wright, have felt that the Department of Public Charities, with its wealth of medical and surgical material, should find some method of giving the medical profession the benefit of the scientific work which is being done at the various hospitals of the Department. When one considers that between eight and nine thousand beds are included in this department, embracing medicine, surgery, gynecology, obstetrics, neurology, children and the specialties, in the care of the sick from whatever cause, it is self-evident that the work becomes not only an economic one, but also a field for the application of our best scientific thought. The aim of the Bulletin is therefore a two-fold one—the mutual exchange of medical and surgical experience, and the hope that the experience of those contributing shall in some way aid their fellows in the practice of medicine.

**Delaware State Medical Journal.** Vol. VII, No. 8, July, 1916; No. 9, August, 1916; No. 10, September, 1916.



# The Cleveland Medical Journal

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## INDIVIDUALITY OF WILLIAM HARVEY

By J. J. R. MACLEOD, Cleveland

Those who are intimately familiar with the life history of the discoverer of the circulation of the blood realize him to have been a man of very strong individuality. To those who are not so familiar with William Harvey's life, it may be of interest to collect some of the evidence for this conclusion. As the first piece of evidence, circumstantial though it is, we may take the fact that he belonged to a family consisting of seven sons, all of whom made a very distinctive mark in the times during which they lived. William Harvey was the eldest, and each of his six brothers acquired great wealth and several of them won great distinction either in the court of England or the city of London. His father, too, Thomas Harvey, was a man of great intelligence and judgment, being at one time Mayor of Folkstone, and probably one of the "jurats" who were responsible for the raising of the ships that had to be contributed by the Cinque Ports, with which Folkstone was affiliated, for the defense of England against the Spanish Armada. Harvey's family influences were, therefore, such as would tend to develop a character with a strong individuality.

Direct evidence of his qualities of leadership is gained from the fact that within at least two years after going to the University of Padua, to which he proceeded about 1598, he became one of the councillors of his nation. It should be remembered that in these old Italian universities the students were divided into "nations" according to the country whence they came. Each nation was privileged to elect one or more councillors, who in the case of certain of the universities, such as that of Padua, were empowered to take part in the elections for new professors and for the rector of the university. An important dignity was, therefore, conferred on Harvey in his being a councillor of his nation, and this could have occurred only in the case of a man not only of great popularity but with strong characteristics of leadership. The evidence that Harvey was



thus honored by his fellow students is conclusively furnished by the discovery, which was made some years since, of Harvey's armorial bearings on the roof of one of the cloisters in the University of Padua. The placing of these arms was granted only to dignitaries of the university and to consilarii.

Harvey's testimonial from the faculty at Padua on the occasion of his receiving the degree of M. D. was of so very flattering a character that it must indicate that Harvey had impressed the university authorities to a most unusual degree.

After his return to England he seems, like graduates in medicine of all times, to have had to push his own interests to the full extent of his ability. Indeed, in most of the lives of Harvey which have been written the impression is made that during this part of his career Harvey was distinctly of the aggressive type, willing to take unusual chances but always ready, by assiduous labor and devoted attention to detail, to show that he was justified in claiming the position he sought for. After his return to London in 1604 he lost no time in attaching himself to the College of Physicians and, to make himself available for this appointment, he had meanwhile proceeded to qualify himself by taking his M. D. degree at Cambridge. Three years after this he was elected a Fellow of the College, a mark of distinction which indicates that during this time he must have made a name for himself in the medical community in London. Immediately after receiving this Fellowship, namely, in February, 1608, we find him as an applicant for the position in St. Bartholomew's Hospital, which now-a-days would be equivalent to that of assistant physician. The very way in which the minute recorded in the archives of that hospital reads indicates that Harvey must have used every means at his disposal to insure the success of his candidacy for the position. Thus the minute reads: "This day Mr. William Harvey, Doctor of Physic, made suit for the reversion of the office of the Physician of this house when the same shall be next void" (this implies that the position was that of assistant physician), "and brought the King's Majesty his letters directed to the Governors of this house in his behalf and showed forth a testimony for his sufficiency for the place under the hand of Mr. Doctor Adkynson \* \* \* and divers other doctors of the auncientest of the said College."

Not only must Harvey have applied great push, but he must have exercised great tact and diplomacy to obtain, after so short

a residence in London, such a highly-prized position as the above, and from the records of the hospital it is evident that he discharged his duties with great satisfaction to the court of governors, so much so that when the chief physician, Dr. Wilkenson, died a year later, Harvey was appointed to his place.

About this time certain records indicate that Harvey was a stickler for the strict adherence to the terms of his appointment, and that he did not scruple to put in claims against the hospital for any arrears in the payment of his salary or, if we abide strictly by the records, for what he believed to be due to him in excess of his regular stipend on account of the fact that he did not occupy the official residence granted to the physician. It is suggested by D'Arcy Power that in these negotiations, as well as in other monetary transactions, we seem to see the hand of Eliab, one of William's brothers, for throughout his life William himself was notoriously open-handed and indifferent to wealth, and constitutionally incapable of driving a bargain.

The next insight we have into Harvey's character is culled from the records we have of his early lectures as Lumleian Professor of the Royal College of Physicians. The manuscript of his first course of lectures has been preserved in the British Museum, and is said, by those who have had time and patience to decipher the wretched chirography, to be a very interesting reading and to indicate much of the character of the man who wrote it. The lectures were opened in a spirit of religious charity, and they are full of peculiarities of style which indicate a man of very assertive personality and full of original ideas. Apposite illustrations occur frequently, and important observations, often given in a mixture of broken Latin and colloquial English, are initialed "W. H."

Apart from these impressions of the character of the man, culled from his manner of writing, we have direct evidence of his authoritative character from the canons which he laid down at the beginning of his lectures. In connection with these the following, for example, may be quoted: "Not to dispute with others or attempt to confute except by the most obvious retort"; again, "Not to praise or dispraise other anatomists, for all did well." He seems to have adhered closely to these canons, and to have maintained a perfect discipline while the lectures were being given.

In 1618 further honors were conferred on Harvey by his being appointed physician extraordinary to King James I. About



this time he must have been a man of great consequence in the metropolis, for he was privileged to ride on horseback with a foot-cloth to visit his patients, his man still following on foot, this being a dignity permitted only by those of the highest rank. Amongst his patients were included many of the greatest men of England of that time, for instance Lord Chancellor Bacon.

About ten years later the great work of Harvey's life was published on the circulation of the blood, and in connection with this publication facts have come down to us which indicate that Harvey was a much talked-of man. He tells us, for example, that he "fell mightily in his practice" as a result of the publication of his work. It was believed that he was crack-brained and all physicians were against him. This surely is enough to indicate that Harvey must have been a well-known man. The unpopularity of Harvey which developed at this time was, however, partly due to the fact that he was closely attached to the court and was therefore unpopular with the growing party of Parliamentarians. Notwithstanding this opposition from many of his confreres, Harvey was elected to the highest positions available in the College of Physicians. Thus he became a "Censor" and very shortly afterwards one of the "Elect" of the college, and later on its Treasurer. These again are positions which could have been gained only by a man commanding the highest respect of his colleagues.

In 1629, when he was fifty-two years of age, Harvey's routine life in London came to an end by his being commanded to accompany the Duke of Lennox in his travels on the continent. During these travels Harvey visited many of the scientists of Europe and discussed with them controversial points in his book. He evidently often went out of his way in this or in one of his subsequent journeys in Europe to argue with anatomists who he had learned did not subscribe to the teachings he had enunciated. Thus it is said of him some years later when traveling with the Earl of Arundel that he visited the Jesuits' new college and church in Cologne, where, so the Earl says, "I found in the College little Dr. Harvey, who means to convert them." About this time also he was in Nuremberg visiting Caspar Hofmann, who he had heard complained of his theory (of the circulation of the blood) that "he impeached and condemned nature of folly and error, and that he had imputed to her the character of a most clumsy and inefficient artificer in suffering the blood to become recrudescant." Tradition

says that Harvey actually gave a demonstration in public to convince Hofmann of the error of his reasoning, but though it proved satisfactory to everyone else in the audience, it only stimulated in Hofmann himself an argumentative attitude, for the old man remained unconvinced, and to quote D'Arcy Power, "as he continued to urge objections, Harvey at length threw down his knife and walked out of the theatre."

In his later years, both during his attendance on King Charles during the Civil War and later when he had retired to private life in London, Harvey showed himself to be a man greatly respected and of strong individuality of character. Thus at Oxford he was soon appointed Master of Merton College, and during his years of retirement he was constantly honored by attentions bestowed on him by the College of Physicians. Little episodes in his life at this time are of interest; thus in a letter dated 1761 a great niece of Dr. Harvey's, Mrs. Harvey by name, writes that "he was humorsome and would sit down exactly at the time he had appointed for dinner whether the company was come or not;" and Aubrey tells us that when he (Aubrey) was starting for Italy Harvey in giving him advice "dictated to me what to say, what company to keep, what books to read, and how to manage my studies."

Dr. Ent, in an epistle addressed to the College of Physicians recording the impressions formed by him during a visit to Harvey, quotes among other things the following: When he (Dr. Ent) urged him to publish the many observations which during his retirement he had made on the development of animals, Harvey replied: "And would you be the man who should recommend me to quit the peaceful haven where I now pass my life and launch again upon the faithless sea? You know full well what a storm my former lucubrations raised. Much better is it oftentimes to grow wise at home and in private, than by publishing what you have amassed with infinite labour, to stir up tempests that may rob you of peace and quiet for the rest of your days."

The College of Physicians conferred the greatest honor in their power on Harvey by electing him the President, a dignity which, however, the old man declined to accept on account of his years.

I need not add any of the evidence which is handed down to us in the eulogies written on the occasion of Harvey's death. I think that what I have given will be sufficient to indicate that Harvey, although described as being short in stature and of no



very gainly appearance, was yet a man commanding the highest respect, demanding the most implicit adherence to duty, and yet withal of a most lovable and endearing nature. So strong a character could not but have many enemies, but in no records that are extant is there the slightest indication that at any time in his career did any one of his critics or enemies ever accuse him of dishonesty or meanness.

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**Myasthenia Gravis.**—W. A. Jones, Minneapolis (*Journal A. M. A.*, Nov. 4, 1916), reports a case of myasthenia gravis, with necropsy, in which a thymoma was found in the thymic region just above the heart and immediately behind the sternum, imbedded in loose connective tissue and not adherent to the sternum or to any of the thoracic viscera. In commenting on the case he says the literature on the thymus gland is neither convincing nor satisfying. It seems to be generally recognized that the thymus and the thyroid are interrelated and it seems reasonably safe to assume that the thymus is in some way responsible, like the thyroid, for disturbances of bodily metabolism. It is also probable that it has some other relation with ductless glands, but their dependence on each other is not definitely determined. The presence of the thymus in a person of middle life, particularly when associated with an exophthalmic goiter, is a very strong index, he says, that the thymus is the main disturbing element, and the operator who removes the thyroid gland without recognizing a thymus hyperplasia produces a change in the circulation of the thymus which not infrequently is followed by sudden death. The relation between thymic disease and the central nervous system has never been determined. The majority of thymic deaths in young people and children are probably due to pressure effects, but this does not eliminate the probability of toxins in the blood stream also.

**Gastric Secretions.**—E. C. Fishbaugh, Los Angeles (*Journal A. M. A.*, Oct. 28, 1916), has studied the gastric secretions, following the method of Rehfuess, with only slight modifications in details. He concludes, in reviewing the sixty-five gastric cases studied, that the value of the frequent interval method of stomach analysis is evident. The ordinary one-hour examination shows only a single moment in an ever changing cycle. His patients were placed at ease, and the stomach contents withdrawn after a test breakfast, at twenty minute intervals, 15 to 25 c.c. at a time, until the stomach was empty. Material from each aspiration was filtered and measured off by means of a graduated pipet. Phenolphthalein was used as an indicator for the total acidity, and dimethylaminoazobenzene for the free hydrochloric acid, and each titrated with tenth normal sodium hydroxid. The pepsin was determined by adding to an undiluted portion of each filtrate a Mett tube and measuring at the end of twenty-four hours the amount of digestion by means of a millimeter rule and a magnifying lens. It would seem, he says, from an analysis of the fractional study of stomach secretions in this group of cases, that the following conclusions are justifiable: 1. One hour stomach examinations afford insufficient and often misleading information concerning the acidity and enzyme secretion. It gives no evidence of the secretory curve. 2. The fractional method of stomach examination follows the entire cycle of digestion, and supplies reliable information concerning the type of secretory curve, the degree of acidity, the ferment content and an accurate estimation of the emptying time. 3. By fraction study, stomach secretions fall into three groups: (a) stomach secretions whose curves fall toward the end of gastric digestion; (b) stomach secretions whose curves rise to the end of gastric digestion, and (c) stomach secretions delayed or absent." Eleven charts accompany the article.

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## DRAINAGE IN HYDROCEPHALUS—REPORT OF A CASE\*

By ARNOLD PESKIND, M. D., Cleveland

Earl B., male child, born at East 55th Street Hospital, March 27, 1916.

*Clinical Record of Child:* Delivery normal (child much deformed). Size of child's head unusually large; fontanelles very wide open; spina bifida, tumor in lumbar and dorsal regions (where there is a complete cleft of the spinal column); both feet are clubbed; double inguinal hernia. Weight of child four and one-half pounds. The right femur was found broken in the middle and felt as if it consisted of two cones meeting at the point of separation. Both lower extremities appeared paralyzed. Bladder and bowels acted normally.

March 29th, an interesting X-ray plate of nearly the whole body of the child was obtained.

The thigh was put in a circular splint of strips of wood and adhesive plaster and by the end of the third week showed fair progress towards union.

April 22nd, the tumor began to show signs of ulceration. The child was taken to the surgery and under local anesthesia the tumor (spina bifida) was excised. The thin tumor sac included all the nerve elements of the cord and these could not be spared. Coverings of adjacent muscles had to be called into assistance to cover up the defects. When the child was returned to the nursery it took the breast and did not seem to show any untoward effect of the operation. May 5th the wound was healed; the thigh bones seemed in good condition, though still paralyzed; bladder and rectum were acting normally. The child gained three and one-half pounds in weight since birth, *i. e.*, a little over five weeks.

Up to the end of the sixth month the history of the child is simply a continuation of the conditions as when it left the hospital. It kept on gaining in weight, looked well nourished. The child's head, however, had meantime grown to more than twenty-three inches over the largest circumference and thirteen and a half inches from tip of one ear over the head to the tip of the other ear. After the sixth month the child began to show signs of rapid loss of flesh and vitality. Promising nothing that would encourage the

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\*Read before the Clinical and Pathological Section of the Academy of Medicine of Cleveland, December 1, 1916.





FIG. 1

Earl B., two days old. Shows difference in size of femora. Fracture of left femur, upper third.

parents beyond the attempt to do something in an absolutely hopeless case, I suggested to drain the fontanelles by a method I have decided to try several years ago but was denied permission of



FIG. 2

Earl B., three weeks old. Complete cleft of lower dorsal and lumbar vertebrae. Spina bifida removed. Ring callus around broken ends of femur.

carrying it out. The child was again taken to the East 55th Street Hospital, October 24th (when nearly seven month old) and on the following day the brain was operated upon under local anesthesia,



and, without needing to say, under strictest asepsis. Three incisions were made in the scalp, one-half inch each, then three holes were made with a trepan three-sixteenths of one inch in diameter on the right side, as shown in the photograph. The middle hole I tried to place over a supposed silent area. The other hole was bored about two and one-half inches to the front and a third one and



FIG. 3 and 4

Earl B., nearly seven months old. Before draining ventricles.

one-half inches behind the middle hole. The dura under the middle opening was then punctured. A long probe, one end of which had a V-shaped notch which held four strands of Pagenstecher linen, making eight threads in all when bent around the probe, was pushed down for a distance of two and three-eighths inches through the brain and its coverings into the distended ventricle. A blunt, bent upward, probe perforated near the end, was threaded with a

loop and passed through the first opening between the bone and dura until it reached the middle hole. In the loop the ends of four threads were passed and drawn through between the skull and dura and were left buried under the skull. The probe was then passed through the posterior hole in the skull under the dura, hugging the dura until the probe reached the middle opening where the other four threads were caught and drawn through between the dura and arachnoid and buried in that space. Great care was exercised in preventing the threads from being drawn out from the brain and they were carefully guarded near the dura with forceps. All the openings were closed with silk-worm gut. Two sutures were required for each incision in the scalp. There was a little cerebro-spinal fluid lost from the openings during the operation and for about twenty hours afterward. The child stood the operation very well. On the fourth day and a few days subsequently the child had a little rise of temperature, not over 102° F. After that the child's temperature remained normal. The child nursed well and did not seem to suffer any inconvenience from the foreign body passing through the brain substance. November 16th the largest diameter of the child's head was nearly two inches less and the ear to ear diameter more than half an inch less. The physiognomy of the child has meanwhile undergone noticeable changes during these three weeks. The accompanying photograph will illustrate this better than words can describe it. The bulging forward of the frontal bones on a plane with the frontal eminences, the absence of the normal formation of eyebrows, the buried lids, the sunken eyes, the flattened or almost absent root of the nose, the tense, glistening skin over the front and top of the head, the prominent veins over the sides of the head and especially large, thick, bulging forehead are characteristic of the third photograph (Fig. 3 and 4).

The photograph taken at the end of the third week shows marked changes in the forehead, which is flatter, bulging much less than before the operation; the veins are not so full, seem smaller, the eyebrows are better defined, the skin of the forehead wrinkles when the child is crying, which never happened before, the root of the nose is well marked now, the eyelids seem more mobile, the eyes are a little more forward.

The child seems to be more sensitive, perhaps is more irritable, recognizes its parents and does what it has never done before, plays occasionally with its little hands and with a rattle when held near enough for the child to reach it.



The threads were left in situ until November 20th, when they were easily removed from the middle opening in the skull. The eight strands were perfectly clean and the twenty c.c. of fluid from the ventricles, drawn out at the same time for histologic and bacterio-



FIG. 5

Earl B., nearly seven months old. Three trephine holes. Middle one for direct intra-ventricular drainage.

logic examination, appeared to the naked eye to be perfectly normal. The subsequent report of the pathologist is thus briefly summarized. The fluid is perfectly clear, shows nothing different from normal cerebro-spinal fluid, has only three cells to the millimeter and cultures of the fluid gave after five days absolutely negative results. Wassermann, negative. Colloidal gold, negative, the curve being 0-0-0-0-0-0-0-0-0-0. Gold test shows no increase in globulin. So that the leaving for over three weeks of the aseptic threads within the brain cavity produced not the slightest signs of irritation nor were the threads a source for any infection.

That the operation is justifiable and worth trying seems to me unquestionable, but it should be done earlier. The first and surely not later than the second month of life is in my judgment the best time. There is no use to wait until the bones are separated too much, as in this case, and probably have grown larger in circumference than they would normally grow; and mechanical pressure around the head would be required to increase the pressure of the intracephalic liquid to above that of the lymphatic system, a pro-

cedure wrought with great difficulty of execution. The brain, too, meanwhile becomes thinned out more and more, assumes the form of a thin layer of nervous tissue surrounding a large ventricular sac filled with fluid.

A word about the threads to be used. The next chance I have I shall surely try extra long, fine silk-worm gut instead of linen thread.

The prognosis in this case is very sad, indeed. There was too much to contend with at the beginning and the operation for the hydrocephalus was necessarily too long deferred. But, in other



FIG. 6 and 7

Earl B., sixteen days after operation for draining of ventricles.

cases in which hydrocephalus alone exists, with no such malformations as afflict this unfortunate baby, the early institution of draining the ventricles as suggested, and perhaps also extending the drainage subcutaneously under the scalp, should provide a more favorable prognosis, so far as prolonging the life of the child is concerned and probably to save its usefulness to lead a self-dependent existence. But, what is most essential to remember is to do it as early as possible.

2414 East 55th Street.

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## ENCEPHALOCELE—REPORT OF A CASE\*

By ARNOLD PESKIND, M. D., Cleveland

Baby W., female, was born at the East 55th Street Hospital, January 25, 1916. The child was cyanotic at birth, but soon resuscitated. Weight at birth was eight pounds and six ounces. The child seemed normally developed, except for a small cerebral hernia a little below the posterior fontanelle. A metal cap was placed over

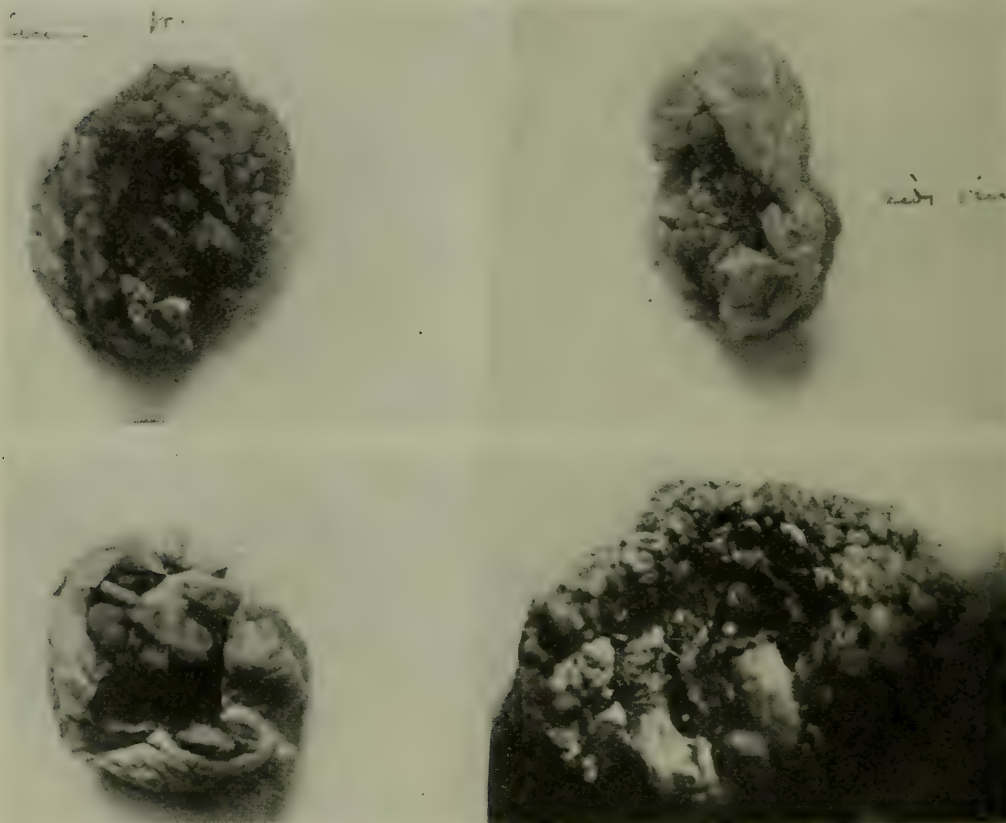


FIG. 1

Baby W., one month old. Encephalocele, tumor removed. Photographic views.

the hernia to protect it from injury and sterile gauze saturated with oil was kept under the cup. The child left the hospital February 7th with instructions to mother to return with child in a month for operation. On February 18th my nephew, Dr. B. Peskind, was called to see the child. He found it very restless and a little feverish. Upon examination, the hernia (the encephalocele) was much enlarged and the surrounding skin excoriated and inflamed. The child was returned to the East 55th Street Hospital. Aseptic wet dressings were applied over the hernia and the child kept under ob-

\*Read before the Clinical and Pathological Section of the Academy of Medicine of Cleveland, December 1, 1916.

servation until February 22nd, just four weeks from the day the child was born. The child's features during these four weeks had assumed the characteristic frog shape of encephalocele, the forehead receding straight towards the bregma. An X-ray plate taken at that time does not show the deformity well because of the difficulty experienced of keeping the child quiet. The deformity became accentuated with the increase in size of the encephalocele. Under local anesthesia (and a pacifier in the mouth—a splendid sedative with most babies) it was not much of an operation to remove the tumor. The same cannot be said, however, of the closure of the  $1\frac{1}{2}$  cm. defect in the skull, in view of the fact that infection and some loss of skin tissue had already taken place. A little of the cerebro-spinal fluid was first let out through the opening made when the pedicle was divided, thus lessening the internal cerebral tension. The dura under the skull at the side of the defect was split and brought forward over the opening which was then closed with four chromic mattress sutures. The pedicle was tied with fine chromic catgut. The child was not in the least affected by the operation and left the hospital well and with wound closed in three weeks. The removed tissue was a little over 3 cm. at the largest diameter and over 1 cm. at the pedicle, and weighed a little less than three grammes—approximately one hundredth to one hundred and thirtieth part of the total weight of the child's brain.

The microscopic examination by the pathologist is thus summarized: The specimen examined shows from without inward, (1) the skin, typical in every respect, containing sweat glands and sebaceous gland, (2) nerve tissue proper—parenchyma cells of embryonic type and neuroglia, (3) ependyma, the lining of the ventricle.

The result of the removal of so much brain tissue was not negligible and will illustrate the necessity of very early interference in such and similar cases. In fact, in most cases of congenital malformations, the defects should be repaired as early as possible—the first few days of life should be preferable so as to prevent much disfigurement and perhaps permanent irreparable damage. The accompanying photograph demonstrates this better than words would describe.

The child is now over nine months old. It has recovered the normal head-form. The head has lost its frog-shaped outline but looks somewhat microcephalic. Intelligence does not seem to be





FIG. 2 and 3

Baby W., nine months old. Encephalocele removed eight months ago. Shows microscopic conformation of head but not the expression characteristic of microcephalus.

impaired and the child is already attempting to walk, is teething normally and responds normally to stimuli, thus indicating the probability that no organs endowed with special functions were affected by the loss of tissue or that compensation has taken or is taking place. Also, judging by its actions and its expressions, the child seems perfectly normal in spite of the fact that a perceptible part of the brain tissue was removed at four weeks of age. But this removal of tissue undoubtedly will continue to have some effect on the moulding of the brain of this girl and consequently of the head, which a much earlier operation, than four weeks after birth, would have prevented or ameliorated.

2414 East 55th Street.

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**Germicides.**—R. A. Lambert, New York (*Journal A. M. A.*, Oct. 28, 1916), has used the method of Harrison, Burrows and Carrel of cultivating living tissues in vitro and testing their resistance to the commoner germicides, as compared with that of the various pathogenic organisms. A more detailed report of this work will be published elsewhere, but he gives a tabulated statement of his results. It will be seen that cells are more easily destroyed than bacteria by all but one of the germicides, namely, iodine. Since the ultimate aim of his work was to find an ideal tissue disinfectant, it should be mentioned that iodine as well as the sodium hypochlorite solution used possesses the power of rapidly dissolving fibrin, a property which may militate against the use of each of these germicides in healing wounds, for it is recognized that fibrin serves a useful purpose in plastering together wound surfaces and thus facilitating organization. He has concluded from these experiments that this method of tissue cultures affords a simple and easily controlled method of determining under conditions analogous to those in the body the relative resistance of tissues and bacteria to various chemical agents, including the common germicides. Of these germicides tested, iodine injures tissue cells. In view of its possibility of dissolving fibrin some other substance may be sought.

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**Social Hygiene in France.**—M. Jules Bois, sent by the government of France to the United States to strengthen the bond of friendship between the two countries by making known the true spirit of the French people and by developing an interest in the study of the French language and literature in this country, spoke before an invited audience in the library of the American Social Hygiene Association on the evening of Thursday, November 10th, on the social hygiene movement in France with special reference to education. The question of social hygiene, he said, has come into prominence in France only within the last few years, interest in the subject having been brought to its highest point through the experiences of the war, which have revealed to the French people themselves hitherto unrealized depths of seriousness and devotion to the highest ideals of individual and community life.—*Amer. Social Hygiene Ass'n. Bulletin.*



## TRAUMA AS A FACTOR IN THE CAUSE OF HYDRONEPHROSIS

By FREDERICK C. HERRICK, M. D., Cleveland

The term hydronephrosis although long in use is, as Kelley suggests, somewhat of a misnomer. Uronephrosis is preferable, since the distended renal pelvis under such conditions contains urine. A definition must necessarily be dogmatic. Renal pelves show a great normal variation in capacity and form and it is only after comparison of a large number in the autopsy room and clinically by means of the X-ray that an approximate idea has been formed of what constitutes an enlarged renal pelvis in a given case. Authors agree that capacity alone as a criterion is not sufficient. A distinction must therefore be drawn between the capacity of the pelvis and one which is clinically causing trouble. The two factors which decide as to the pathologic character of the condition are the presence of clinical signs or the presence of a definite cause for the apparent dilation. A large pelvis without clinical symptoms or a definite cause is not necessarily considered as pathologic. This, however, depends somewhat upon its capacity, for we are at sea as regards some factors in the causation and some congenital varieties exist a long while before causing symptoms. A pelvic capacity of fifteen to twenty c.c. with normal calices and body may be proportionate to the kidney and without symptoms while the same amount of retained urine in another patient is associated with severe pain, colic or frequency of urination requiring surgical relief. Actual retention of urine within the pelvis under increased pressure seems to express our present conception of the condition. Generally speaking, a capacity above 15 c.c. will be found pathologic and associated with enlargement or rounding of the calices. It is, if anything, more necessary to discover the smaller uronephroses than the larger. They often cause marked symptoms over a long period of time, consisting of pain and colics associated with increased frequency of urination. The diagnosis in such cases is usually difficult. Several of the following cases had been operated for pelvic, gall bladder or appendix disease without relief. In such cases an early diagnosis and operation may result in saving a kidney by correction of a ptosis, severing of an accessory vessel or band of adhesions, to say nothing of years of recurrent symptoms with more or less invalidism.

A uronephrosis as large as an orange or cocoanut, holding a

pint, is easy of recognition, but until more recent methods of diagnosis were developed those of small size were not recognized. This brief paper is based upon a series of eighteen cases, seven of which were of traumatic origin. All but two were encountered in private practice.

Traumatic origin.

Single trauma.

Repeated trauma.

I have been compelled to accept trauma as a very definite factor in the causation of many cases of hydronephrosis for the following reasons:

Anatomically speaking, we know that the kidney varies greatly in degree of lobulation, in some the lobules being more distinctly marked than in others. Accompanying these variations the persistence of the interlobular framework which attaches the kidney to Gerota's capsule and blends with the perirenal fascia, the renosplenic fascia and the nephro-colic ligament helps to hold the kidney in a more or less fixed position. The variation and persistence of the nephro-colic ligament extending down on to the ureter and varying in its fixation and firmness renders kinking or obstruction of the ureter from ptosis of the kidney quite explainable. That a single trauma, in some cases, partially or completely tears its attachments, rendering the kidney more movable, is certain. In a relatively severe accident, such as happened to some cases to be shown later, mobility was brought about by a single injury and the ureter became obstructed from ptosis over a band or vessel. In lesser repeated traumas the same was brought about more gradually with symptoms recurring after each strain or injury. The change of axis of the kidney is of great importance. Normally the kidneys oblique slightly toward the vertebral column in such a position in which fluid flows most readily from the renal pelves aided by their peristalsis. A change in the direction of this axis tends to form a pocket in the lower pole of the pelvis which gradually enlarges, and pressing against the ureter origin, causes progressive obstruction. The normal peristalsis, instead of favoring the emptying of the pelvis, favors blocking of the beginning of the ureter in the renal pelvis. The patients learn that the upright position, much activity or physical effort are followed by pain and find it partially or completely relieved by the recumbent posture. Several have found they could aid the relief by a pressing motion which tended to replace a



ptosed kidney. Thus the relation of trauma to uronephrosis seems to depend upon the fact that the normal attachments of the kidney vary greatly according to the degree of fusion of the perirenal fascia with the peritoneum; according to the degree of renal lobulation persisting and the presence of actual lobular framework with or without accessory vessels to its lower pole. The presence of this so-called accessory vessel to the lower pole is not a marked abnormality in development. A superior pole artery has long been recognized as occurring in a large percentage of cases, in fact, so frequently that it must always be looked for in nephrectomy, and I am sure that many post nephrectomy hemorrhages are due not to a leakage of the main renal stump but to such pole arteries which have not been properly tied. Therefore, since the kidney varies so greatly in its fully developed form, the burden of causation of uronephrosis seems frequently to rest more on acquired factors such as trauma.

*Cases illustrating a single trauma as causing uronephrosis:*

Case 1. 1295. Female, age 16 years. At 9 years of age while lying in a sand pile a boy jumped with both feet, striking her in the left flank. Patient was in bed for a month following with severe pain. One year later began to have attacks of violent colic extending from the left renal region to the bladder. Has never had chills nor fever, no hematuria, no calculi.

Examination—very well nourished girl. Left kidney, lower pole palpable, markedly tender, both anteriorly and posteriorly. Head's kidney zone of cutaneous hyperesthesia markedly present. Pyelography showed a definite hydronephrosis on the left side. No treatment accepted. Although this patient had been suffering from frequent severe attacks of pain she has now two years since examination had no recurrence. Whether the inflation of the pelvis with collargol had anything to do with this I am unable to say, but I have seen a marked improvement of symptoms following pyelography in two cases.

Case 2. 1541. Female, 19 years of age. At 11 years of age patient was thrown from a horse on to her right side. The horse fell, striking her in the right flank just above the ileum; severe injury. Two years later was in bed for several weeks with pain in the right flank, scanty urine and some edema.

Since then has had repeated attacks of pain, beginning in the right fossa, extending down to the bladder, occurring every one to

four weeks, during which time she has marked increase in urinary frequency with burning; no hematuria, no calculi; has recently had some chills and fever. Consulted several physicians. Six months ago appendectomy for these attacks. Pain recurred before she was out of the hospital. This patient was first seen with a temperature of 104, pulse 110; marked pain and tenderness in the right flank, with mass the size of a coconut. Palliative operation consisted in incision and drainage of the kidney, which was largely a urinary sac. Patient's condition did not warrant a nephrectomy. Three weeks later nephrectomy.

Case No. 3. City Hospital. No. .... Male, 37 years of age. Fell from a wagon, striking on both hands and left flank on a rough road; walked to the hospital. Temperature 97, pulse 60; marked pain and rigidity in the left flank; vomiting. Urine contained albumin and a large amount of blood. The first twenty-four hours only 850 c.c. of urine were passed. Patient reacted and temperature and pulse became normal. Treatment consisted of rest in bed, urotropin. Gross blood disappeared from the urine in three or four days. Before the patient left the hospital a month later cystoscopy was done. No continuous flow of urine from the left side. Ureteral openings look alike and normal. Three times as much urine coming from the right side as from the left. Thalein estimation showed 34 per cent from the right side, 12 per cent from the left. Color appeared from the right in 2 minutes, from the left in 10 minutes. A pyelography was taken showing a large hydronephrosis on the left side. Patient confessed himself as feeling well and requested discharge. About a year later readmitted with a low grade right basal pneumonia and pleurisy, from which he rapidly recovered. He then gave a history of having had repeated pain in the left flank passing towards the bladder, and desired something done. Cystoscopy—catheter was obstructed on the left side at eight inches up. Functional test showed 42 per cent from the right, 3 per cent from the left. Nephrectomy showed a large accessory vessel and band to the lower pole, over which the kidney had been forced down at the injury, producing an obstruction to the ureter and hydronephrosis.

Case 4. 1153. Male, 24 years of age. At eight years of age fell from a tree, striking across flank. Patient was laid up for ten days. After this for several years he had frequent pain in the left flank. Six years ago first noticed pain on the left side extending



down towards the bladder; no calculi were present. These attacks gradually increased in frequency. Three years ago after riding a horse and jumping he passed quite a large amount of blood and had another attack of pain. In the past three weeks pain has been almost constant.

Examination—catheter was obstructed in the left ureter at nine inches. After changing the patient's position, lowering the head and manipulating the flank, it passed a little farther and 25 c.c. were obtained by continuous flow. Pyelography showed a definite hydronephrosis on the left side with marked angulation of the ureter as though it was held kinked by a band of tissue. This patient went to another clinic for observation, where he died.

Again the following cases of repeated relatively slight trauma are quite as convincing.

Case 5. 1145. Male, age 26 years. Never had any serious illness. Three years before first seen began to have attacks of pain extending from the right flank to the right iliac fossa. First attack came on while doing some heavy lifting. When he stopped lifting pain ceased, but returned the same night, requiring morphine to relieve. He was very careful during the following month regarding such exertion, but at the end of that time during some heavy lifting in his work another severe attack of pain occurred. These attacks have increased in frequency and during the past year have occurred every few days. He had an appendectomy without relief.

Examination showed a well nourished though slender-built man with right kidney palpable and tender, left not palpable. Cystoscopic examination and pyelography resulted in the diagnosis of a right hydronephrosis. At operation the kidney was ptosed, the ureter kinked over a band of tissue in the position of nephrocolic ligament. One cannot say that such a condition is entirely traumatic nor is it entirely congenital, but we do know that his trouble began with the sensation of something giving away in his flank during heavy lifting and his attacks of pain dated from and were caused by repeated heavy exertion.

Case 6. 1444. Male, age 19 years. No serious illness. played foot-ball for three years. During the second year noticed a good deal of pain in the left flank extending to the bladder, pain rather severe coming on any time during the day or night, especially after heavy exertion, and always better on lying down. The attacks increased in severity, requiring morphine to relieve; no hema-

turia, no gravel. After the attacks he spoke of passing a large amount of urine. This symptom will be spoken of later. X-ray for stone was negative. Urine contained a trace of albumin, no occult blood.

Cystoscopy—from the left kidney continuous flow, 25 c.c. From the right kidney normal, periodic flow. Pyelography of the left kidney showed a marked hydronephrosis in such a position that ptosis from an obstructing band was almost certain. At operation a large vessel was found going to the lower pole, the kidney pelvis markedly dilated. Both the patient and his parents before operation expressed themselves as against any palliative procedure and desired absolute relief from a single operation; the kidney was therefore removed. Patient made a good recovery. Has been entirely free from pain since.

Case 7. 1363. Female, age 46 years. No serious illness. Four children living and well. Twenty years ago when four months pregnant fell against a stone step corner, striking heavily on the right flank. From that time she dates her symptoms, consisting of pain from the right flank to the groin; at times across the epigastrium, increased volume of urination immediately after attacks. These attacks increased in frequency and severity. Patient found that lying down and bending forward often relieved them. For these attacks of pain she was operated in the preceding four months for gall stones, appendectomy and finally a nephropexy without relief.

Cystoscopy and pyelography showed marked hydronephrosis on the right side. The "Thalein" excretion on this side was 9 per cent as against 24 per cent on the left side. Nephrectomy.

#### *Symptomatology and Diagnosis:*

When we begin to classify the symptoms of a disease we must presuppose that the symptoms are first properly drawn out by the physician in their true relations without suggesting or detracting from them; second, accurately described by the patient; third, accurately assigned by the physician to the physiologic disturbance which has caused them. Such is the art of history taking that I believe an appreciable part of the errors in diagnosis, which it is the misfortune of all of us to see from time to time, are due to a faulty drawing out of the symptom description and consequently an assignment of the trouble to the wrong source. By a hasty history and examination the physician fails in the case in hand and



hinders the development of his own perception. It is certain that patients vary greatly in their description of symptoms. I sometimes think it would be better to go at a case without a symptomatic history, but such a course would take more time than we can spend to say nothing of the patient's and our own discomforts during the process. Carefully taken without suggestion and with as full an appreciation of normal physiology as we can gain an anamnesis is of great value. Hastily taken with a snap diagnosis it leads us astray.

Number of cases, 18.

*Pain*, 17. *No pain*, 1.

Attacks, 12.

Constant, 2.

Referred, 7 (1 to knee; 1 to epigastrium; 5 along G. U. tract).

Relieved by position, 6.

*Increased frequency*, 8.

During attacks, 8.

Interim, 7.

Both, 1.

Polyuria, 5.

Hematuria, 5.

In one constant, chief sign.

*Age*:

10-20 years, 4.

20-30 years, 6.

30-40 years, 4.

40-50 years, 2.

50-60 years, 1.

70-80 years, 1.

*Sex*:

Male, 5.

10-20 years, 2.

20-30 years, 2.

30-40 years, 1.

Female, 13.

10-20 years, 2.

20-30 years, 4.

30-40 years, 3.

40-50 years, 3.

50-60 years, 0.

60-70 years, 0.

70-80 years, 1.

*Trauma:*

Single, 5; falls.

Repeated, 3; blow, 2; lifting, 1.

Side—Right 3. Left 4.

*Examination:*

Tenderness, 15.

*Cystoscopic:*

Ureteral orifices—

Normal, 7.

Edema, 2.

Congested, 5.

Large, 3.

Diverticulum, 1.

*Bladder:*

Normal, 11.

Edema bullosa, 2.

Cystitis, 3.

Diverticulum, 1.

*Flow:*

Continuous, 12.

None, 2.

Periodic, 2.

Albumin, plus; trace, 18.

*Functional test:*

Thalein in 6 markedly diminished.

Operations on wrong diagnosis before seen, 7:

Appendectomy, 3.

Gall bladder operation, 1.

Nephropexy, 1.

Tubes and appendix, 2.

All right side.

At final operation accessory vessel or band, 5.

Operation by myself, 8.

Operation by other surgeons, 2.

No operation, 8.

Improved by pyelography, 2.

Operative results of my own 8 cases:

Nephrectomy, 8; all cured.



No operation, 10.

Having trouble, 4.

No trouble, 1.

Died, 1.

Don't know, 2.

Improved by injection, 2.

### *Conclusions:*

A history of injury to either flank with succeeding constant pain in the region of the kidney or attacks of renal colic in which the presence of stone can be excluded renders traumatic hydro-nephrosis a strong possibility. In such cases the pain is frequently referred to the abdomen and the patient is operated on a wrong diagnosis. With such clinical signs no abdominal operation should be performed without clearing up the condition of the kidneys and distinctly deciding the presence or absence of disease in them.

465 Rose Building.

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**Lepa Mutilans.**—M. S. Rosenthal, Baltimore (*Journal A. M. A.*, Oct. 28, 1916), reports a case of malignant leprosy in a colored bootblack, aged 22, but about 40 years old in appearance, a native of Demerara, who had been treated, both as an ambulatory and a bed case, in several hospitals without diagnosis of his disease. The rapidity of the tuberculous and destructive process had been unusual. The amount of mutilation which had taken place in this patient in about one year usually takes from three to five years. Eyebrows and eyelashes were scant, the tubercles were especially abundant about the mouth, chin and nose, but were also generally disseminated. There was a complete loss of nasal septum, flattening the nose against the face. The ears were also involved. Both hands were covered with a black, foul smelling debris and the little fingers of both hands were completely destroyed. Both thumbs were thickened, and in the right one the terminal phalanx remained, but was readily removed by slight traction. The other fingers were suppurating at the ends and partly destroyed. The backs of both hands and forearms were covered with numerous leukodermic spots, circinate in outline, with central loss of pigment. There was complete anesthesia of both arms from the elbow down. The toes of the left foot were gone, and on the right foot there remained part of the great toe, and the others destroyed or practically so. There were few leukodermic spots on both feet and complete anesthesia below the knee. He has been able to follow his occupation until the diagnosis was made, and the smears from the hands, mouth, nose and lips were filled with the lepra organism. The case was reported to the health department but nothing was done, and he continues to roam at freedom, using the street cars and telephones, handling money and living in the insanitary surrounding, where he was originally found.

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By Wm. D. FULLERTON, M. D., Cleveland

### Chloroform in Obstetrics\*

Much has been said and written during recent years both for and against the use of chloroform to alleviate the pain of childbirth. It is certain that today in the face of all the evidence that has been brought forth to condemn its use, chloroform is the most widely used anesthetic for this purpose, and such would scarcely be the case unless the clinical results warranted the continuance of such practice.

Some time after Simpson introduced chloroform as a general anesthetic it was noted that deaths were more often attributed to its use than to ether; however, bad results following its use in obstetrics were practically unknown and it was attempted to show that the pregnant woman was less susceptible to its ill effects than was the non-pregnant individual.

Nothnagel and Fischer, and later Howland and Billet, wrote on the toxic effect of chloroform. Whipple and Sperry laid special emphasis on late chloroform poisoning, which particularly has since caused much adverse criticism of chloroform as an anesthetic. Clark has shown that pregnant animals have no special immunity to chloroform poisoning. Hill thought that the fairly constant pathological lesions found in animals subjected to chloroform anesthesia was due to the constant administration, and that if the conditions during labor were imitated the results would be better. Accordingly, he gave sufficient chloroform to the experimented animals to anesthetize them to the same degree as the woman in labor. The administration was as follows: For thirty seconds, every four minutes for two hours; every three minutes for one hour; every two minutes for one hour, and then continuously for half an hour; in all one hour and ten minutes of anesthesia. These animals were killed after two to six days, and contrary to expectations their livers showed the typical pathological lesion of necrosis around the hepatic veins in the liver, with evidence of rapid degeneration. Until Hill studied his records closely he did not realize that to guinea pigs weighing  $\frac{1}{2}$  pound he had given 112 drops of chloroform, and

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\*Read before the Cleveland Academy of Medicine, December 1, 1916.



to dogs  $15\frac{3}{4}$  pounds, 635 drops, when women of 140 pounds had required only 300 drops administered in the same way over two-hour periods ending in delivery.

It therefore is evident that guinea pigs required 100 times and dogs 19 times as much of the anesthetic per pound of body weight to produce anesthesia for about half the length of time as did the women. Considering the wide variation in the dosage in proportion to body weight, the presence of pathological evidence in the animals and absence of clinical symptoms in the women is not to be wondered at.

Graham has shown that the toxic effects of chloroform were due to the liberation of hydrochloric acid and that when alkalies were administered before anesthetization the toxic effects were inhibited.

Among other objections brought forward against the use of chloroform is that emphasized by DeLee of its decomposition in the presence of an exposed flame with the liberation of toxic products affecting the attendants as well as the patient. However, if an anesthetic must be used in such surroundings, is it not better to use chloroform with the risk of disagreeable results than to use ether, which is explosive under such conditions, whereas chloroform is not? The possibility of pneumonia during the puerperium, which by some is claimed more common after chloroform than after ether, is certainly open to debate. We know ether is much more irritant to the respiratory passages and must be used in much larger amounts, so that this objection is more apparent than real. Others have claimed a greater frequency of postpartum hemorrhage following chloroform. The patient is much more quickly anesthetized with chloroform and regains consciousness more rapidly. The depth of anesthesia with either anesthetic depending upon the amount absorbed, and the necessary degree of anesthesia can be maintained with much less chloroform than ether. Since postpartum hemorrhage in properly managed third stages is due to failure of the uterine muscle to contract, and this failure in the majority of cases due to the effect of anesthetic on the neuro-muscular control, it would seem that the anesthetic which was most rapidly eliminated and recovered from (chloroform) would be least likely to be accompanied or followed by serious bleeding. The objection that chloroform weakens contractions is equally true of ether and depends with either upon the depth of anesthesia, that from chloro-

form being more rapidly attained and recovered from is less objectionable in this respect than the less rapid action of ether. By eliminating pain and producing a more or less pronounced state of amnesia, especially in nervous, excitable and frightened women, the duration of labor is actually shortened by the use of the anesthetic. As demonstrated by Graham, the toxic effects of chloroform may be minimized by the previous administration of alkalies, and this is particularly to be urged if an unavoidable prolonged anesthetization is to be required.

It is quite generally agreed among its advocates that chloroform even in small amounts is contraindicated in eclampsia, toxic vomiting and acute yellow atrophy of the liver, for the reason that in these conditions the lesion is principally an hepatic necrosis not unlike that produced by chloroform poisoning. It is feared that the liver already damaged by the toxins of these conditions would be less resistant and further damaged by chloroform, the effects of which, if the liver were normal, could be tolerated with impunity.

Chloroform is unquestionably a more powerful and toxic drug than is ether, but so is scopolamine more powerful than codein and must be administered with greater care and precision. The same applies to chloroform. The margin of safety is much narrower and the administration demands more skill and closer supervision. Since the danger of toxic effects increases with the prolongation of administration, chloroform anesthesia is not desirable for prolonged anesthesia such as may be necessitated by all operative deliveries excepting the simplest of low forceps.

So much for the several objections to the use of chloroform anesthesia during labor. Let us next consider its advantages. Such authorities as Engle, Veit, Müller, Carstens, Marcy, Williams, Cragin, Slemmons, and many others endorse the use of chloroform in normal cases and it is the routine obstetric anesthetic in the Sloan Hospital for Women, New York, and the Johns Hopkins Hospital, Baltimore, two of the foremost teaching institutions of this character in the United States, as well as in other institutions too numerous to mention. In the first place, chloroform is less bulky to carry and much more agreeable for the patient to take, especially to those who have formerly been nauseated by ether. When properly administered during the latter part of the second stage, and particularly when the head is emerging from the vulva, the patient can be freed from all pain quickly and completely with a minimum amount



of anesthetic. The patient is instructed to notify the attendant when she feels a contraction starting, three or four drops of chloroform are then let fall or an Esmarch mask covered with not over six thicknesses of gauze and the patient instructed to take several deep breaths, after which the mask may be removed as anesthesia is sufficient to abolish pain, yet the patient voluntarily or on being urged will make expulsive efforts. As the head descends and the vulva dilates the anesthesia is gradually deepened so that when the head passes over the perineum the patient is completely anesthetized. As soon as the head is born the administration is stopped and the patient will, when no excess of anesthetic has been administered, regain consciousness in three to four minutes. The amount of chloroform for such a procedure rarely exceeds one to one and a half ounces, much of which has been lost off the open mask and not inhaled. The rapid recovery of consciousness and almost invariable absence of nausea and vomiting are agreeable and convenient features. Although recovery of consciousness is rapid, there is usually sufficient time, if one is prepared, to place any necessary perineal sutures, which may be tied immediately or this act postponed until after the completion of the third stage.

If the anesthetic must be administered by a nurse or member of the household, closer supervision is necessary, but anesthesia is more quickly established and usually without the stage of excitement so common with ether, during which asepsis is so easily broken. For easing the pains of the latter part of the second stage of labor, and for complete anesthesia as the head is emerging from the vulva, chloroform is most satisfactory. So little anesthetic is necessary and anesthesia so quickly recovered from that no important retardation of labor is observed, whereas if ether be used and sufficient given to produce an equal freedom from pain, the uterine contractions are delayed and decreased in intensity and the necessity for operation interference markedly increased.

Now to summarize the comparison of these two anesthetics. Chloroform requires greater attention and care and is more readily administered by an untrained attendant. The greater rapidity of action of chloroform and its more hasty elimination render it preferable to ether for eliminating most of the pain of the late second stage and actual delivery. Chloroform properly administered delays labor to a lesser extent than ether, and by making the patient more comfortable and thereby enabling her to use her accessory

expulsive forces actually decreases the length of labor. Chloroform should never be given in the so-called toxemias of pregnancy, nor for prolonged anesthesia such as is necessitated by any but the simple operative procedures. Postpartum bleeding is no more profuse after chloroform than after ether, and if at all, is but very slightly more profuse than after delivery without anesthesia.

These factors make chloroform preferable to ether in normal spontaneous labors, especially in multipara with short second stages. Chloroform should not be given before the second stage is well advanced and should then be administered in amounts only sufficient to abolish most of the pain. The length of administration will rarely and should not exceed thirty to fifty minutes, and the amount used should average not over one ounce. Chloroform should always be administered through an Esmarch or other open mask and never in concentrated form.

In closing it is perhaps opportune to say that when available, and in trained hands, nitrous-oxid-oxygen is the anesthetic *par excellence* for anesthesia during not only the second stage but the latter part of the first stage as well, and that when used and somewhat more relaxation is required when the head is emerging from the vulva than is usually obtained with nitrous-oxid-oxygen, a few drops of chloroform through an open mask will produce the required relaxation in minimal time, with least discomfort to the patient and most satisfaction to the attendant.

422 Osborn Bldg.

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**Cure of Thrombosis by Massage.**—J. A. Caldwell, Cincinnati (*Journal A. M. A.*, Oct. 28, 1916), reports the case of a man whose left arm was crushed by a gas explosion. On regaining consciousness, his left hand felt numb and was cold. Local treatment caused no improvement, and a thrombus was diagnosed. The brachial artery was exposed by incision and the points noted where pulsation could be felt, thus locating the thrombus. The vessel was stroked proximally, and after three or four strokes the intern who had held his finger constantly over the radial announced that good pulsation had returned. The wound was closed and the next day the pulse was equal in both radials. Evidently a thrombus was broken up by the massage and the clot carried further on. In the forearm the collateral circulation is so free that complete occlusion of either radial or ulnar causes practically no barrier to good nourishment of the hand. The case is reported to emphasize the necessity of prompt action in the operative relief of thrombosis before damage to the intima has been caused.

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## NEUROLOGICAL REVIEWS

By T. S. KEYSER, M. D., Cleveland

*Babinski's Sign From the Point of View of Comparative Anatomy. M. Astwazaturof. The British Medical Journal, August 12, 1916.*

There are certain signs observed in lesions of the pyramidal tracts which, the author believes, must be explained through a study of comparative anatomy. To this group of phenomena belongs the sign of Babinski, which is especially enigmatic in that it is neither an exaggeration nor an abolition of a function but an inversion of it.

The fact that the extensor reaction of the great toe is a normal phenomenon in infants who have not learned to walk, seems to show that it represents a rudimentary function, which is common to an early period of phylogenetic evolution and becomes latent in adult individuals to reappear again after lesions of the pyramidal tracts.

The nervous system has undergone profound and complex changes of structure and function in its long evolution from the lower metameric animals to the highest mammals, retaining, however, the fundamental propriospinal apparatus which consists of the segmental or metameric structure with a purely reflex function. Edinger distinguished two parts of the nervous system, the neencephalon and the palaeencephalon, which are essentially different from the point of view of their phylogeny. In the lowest forms of life the nervous system consists only of separate segmental reflex arcs which have merely a simple reflex action—the palaeencephalon. In the evolutionary development of the nervous system these segments become combined in groups and functionate together, thus giving rise to more or less complex and co-ordinated muscular movement. These connector fibres constitute the earliest appearance of the neencephalon, which in man constitutes the cerebrum and the projection fibres—the pyramidal tract. As the neencephalon develops, the palaeencephalon gradually loses its purely reflex function and becomes more and more under the control of the cerebrum. In other words, the somatic musculature is governed more completely by voluntary innervation. The neencephalon not only controls, to a large extent, the propriospinal apparatus, but also suppresses the reflex action of the lower centers, the so-called cortical inhibition. In lesions of the pyramidal tracts this inhibition is lost, thus giving

rise to exaggeration of the normal reflexes and the appearance of some reflex reactions corresponding to some earlier stage of phylogenetic evolution. These reactions are normal propriospinal or palaeencephalic reflexes, which manifest themselves only in case of loss of the cortical influence on the cord.

The author believes that Babinski's phenomenon belongs to this group of reflexes. He next endeavors to explain the origin of the reflex. The normal plantar reflex, consisting of flexion of all the toes, is a function peculiar to man. The lower extremity, which has purely static function in man, is evolved from an extremity with the function of grasping. In the act of grasping, the great toe makes no flexion, but a movement of opposition. In man, unlike most other primates, the *opponens hallucis* muscle is absent, thus the function of opposition is lost and plantar stimulations should cause flexion of the little toes and no movement of the great toe. The fact that all the toes flex on plantar stimulation is explained as a special adaption of the neencephalon acquired gradually in learning to walk, that is, flexion of the great toe is not an inherent propriospinal reflex but an automatic reflex acquired by voluntary effort (learning to walk) and therefore under cerebral control. A lesion of the pyramidal tract destroys this reflex arc, resulting in no flexor respond of the great toe.

The more difficult problem is the explanation of the extension of the great toe in pyramidal lesions. In the evolution of the grasping reflex there was a period when the act consisted only of flexion of the little toes, the great toe having lost its function of opposition. In this period the great toe may have been excluded from the grasping act by extension. In Western monkeys the great toe is not opponible and, unlike the other digits, has a nail instead of a claw. In grasping the great toe, not participating in the act, must be removed from the other toes by an act of extension. The same is true in the act of scraping or clawing.

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## THE PROGRESS IN PEDIATRICS

By HUBERT C. KING, M. D., Cleveland

Results of the Newer Methods in Treating  
Diabetes in Children

Diabetes in children has long been regarded as a serious disease in which the results of treatment were discouraging. With the announcement by Allen of his method of treating diabetics clinicians began applying the methods in the treatment of the disease in children and to wonder if the apparently brilliant results attained in adults might be equalled in the care of the young. It is not our province to pass judgment upon the value of the Allen treatment of diabetes even were we able. The time since its inauguration is far too brief for any of us to put a final value upon Allen's contribution. In the preface to his new book Joslin, who is a master in this field, says that "three years ago I would not have wished to write a book on diabetes; today it is a pleasure and an inspiration because the improvement in treatment is beyond question." There are equally able clinicians who are not so optimistic. I shall merely refer to the statements of three men who have had considerable experience with the new treatment in children.

Joslin in his book—Treatment of Diabetes Mellitus (Lea & Febiger, 1916), says that children make exceptionally good patients, that the days of starvation and the diet are borne without complaint and that in otherwise healthy children a gain in weight takes place. He does infer that adherence to the rules over a long period of time is difficult to obtain. He states that children are especially sensitive to acid poisoning and that "when acid danger lurks, beware!"

In the Medical Clinics of Chicago for September, 1916, Dr. Solomon Strouse, who has had considerable experience with this method of treatment, writes on the results he has obtained in children. His opinion of the value of Allen's methods may be well summarized by the statement that if the co-operation of some intelligent and interested person in the home may be obtained the results are far from discouraging. He reports two cases in which the co-operation of a responsible party was obtained and in which the patients are sugar-free some months after leaving the hospital and are gaining in weight. Both these patients were seen and treated very early in the course of the disease. A third patient seen later in the course of a more severe diabetes was not cured but

showed a very definite improvement after a year of careful treatment. He believes the child would have been lost under the older methods of treatment. He mentions the case of a boy, who, after going home from the hospital, went on a "carbohydrate spree" and died in coma. His summary is that diabetic children usually die in coma and that coma is less common with our new methods of treatment. He is not sure that a child can be kept in a state of under nutrition for a period long enough to improve the diabetes without seriously impairing development. He quotes Joslin as saying that practically the only cases of diabetes in children which have survived have been those in which there is a familial tendency to the disease. It is quite certain that the earlier the case is seen the more likely are the results of treatment to be satisfactory. The basis of years of experience is against a hopeful prognosis.

In an article entitled "The Relation of Prognostic Factors to Treatment in Diabetes"—*Am. Jour. Med. Sc.*, Vol. CLI, No. 2, 176—Nellis B. Foster expresses a gloomy prognosis in cases of diabetes in children which come to treatment after the disease is of some duration—that is in advanced cases. He says that the glycosuria is easily controlled but that the blood sugar is difficult to reduce to normal and remains normal only under the most restricted conditions. This tolerance is usually too meager to preserve health over long periods. The patients that adhere to the diet die in coma precipitated by an infection, as pneumonia or influenza. Those who do not adhere to the diet rigidly also die in coma. The cases of this type which he has followed and which have survived the disease are "under nourished, and altogether pathetic."

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**Iodid Medication by the Mouth.**—Studies of the spinal fluid during iodid medication by mouth are reported by J. H. Catton, San Francisco (*Journal A. M. A.*, Nov. 4, 1916), made in order to determine the presence of organic or inorganic compounds of iodid. Study I includes observations on five patients in the San Francisco Hospital on routine iodid medication, and Study 2, observations on one person receiving very large doses of iodids. Two specimens of spinal fluid were used in each case. The test was made as follows: "A portion of spinal fluid was added to some dry sodium carbonate and the mass powdered; the latter was added slowly to a quietly fusing mixture of potassium nitrate and sodium carbonate; the entire mass was allowed to cool, was removed from the crucible and dissolved in distilled water; to a portion of the latter was added some starch paste, and then nitric acid containing a little nitrous acid, drop by drop. Controls containing minute traces of iodine gave a blue color, but no reaction occurred with any of the fluids examined." In all the series of cases examined by the above and other tests, regardless of the amount of iodine administered by mouth, no iodine or compounds of iodine were found in the spinal fluid. Catton concludes that either iodine compounds do not pass through the choroid plexus in any measurable amount or such iodine as does reach the spinal fluid is very rapidly fixed in the tissues.



## REVIEW OF THE PROGRESS OF MEDICINE.

By HAROLD FEIL, M. D., Cleveland

## The Dietetic Management of Hypercholesterinemia in Cases of Cholelithiasis

The recurrence of cholesterin gall stones in spite of careful surgical relief has prompted various investigations to determine the relationship between cholesterin metabolism and the formation of these concretions. Chauffard and Bacmeister in their studies showed that there was a relation between hypercholesterinemia and the formation of gall stones.

*Normal cholesterin content of blood:* Varies from 0.160 to 0.180 per cent.

*Physiological variations of cholesterinemia:* In pregnancy we have a physiological hypercholesterinemia. Bacmeister and Havers showed in pregnant dogs that there is a lipid retention. Upon the birth of the offspring there is a sudden excretion of lipoids—leading to the excretion of a more or less lipid saturated bile—thus favoring the deposit of pure cholesterin stones. The conglomerate masses of cholesterin which compose some of the stones and the absence of concentric layers of deposit give evidence of their rapid formation.

Rothschild showed "that the cholesterin content of blood and bile depends upon the type of food the organism consumes. There is no synthesis of cholesterin in the body. Our supply of lipoids is maintained by our food intake. Free cholesterin is esterized in the intestinal canal, absorbed by the lymphatics, delivered to the blood stream and then distributed to the body cells. With the breaking down of cells, as in the general catabolic processes, it is again freed to the blood stream, carried to the liver, where the endothelial cells possibly produce a deesterization (an intermediary part), excreted with the bile as free cholesterin and again partially reesterized and reabsorbed from the intestinal tract by means of the lymphatics." Chalatow produced small concretions in gall bladders of rabbits by feeding large quantities of cholesterin.

*Cholesterin in blood in cholelithiasis:* Rothschild and Rosenthal conclude that in general hypercholesterinemia is found, but that exceptions occur. That there might have been a temporary hypercholesterinemia at the time of the deposit of the stones, which later disappeared, cannot be denied.

Group 1. Cases that have a normal cholesterin content of the blood.

Group 2. Cases that are hypercholesterinemic.

- |                                     |  |  |
|-------------------------------------|--|--|
| A. Obstructive hypercholesterinemia | Temporary  | $\left\{ \begin{array}{l} \text{Stone} \\ \text{Stricture} \\ \text{New growth} \end{array} \right.$ |
| B. Diathetic hypercholesterinemia   | $\left\{ \begin{array}{l} \text{with obstruction} \\ \text{without obstruction} \end{array} \right.$ |  |
|                                     | $\left\{ \begin{array}{l} \text{intermittent} \\ \text{permanent} \end{array} \right.$               |  |

It is the diathetic cases—which have been surgically relieved that have been investigated especially by Rothschild and Rosenthal. They conclude that these patients have a real diathesis—which has a definite etiological relationship to atherosclerosis. The recognition of this diathesis is extremely important for the patient. Examination of the blood of every case of cholelithiasis without jaundice before operation will detect the diathetic cases (there is a temporary hypercholesterinemia in jaundice). In the presence of hypercholesterinemia provision should be made for drainage of the bile to deplete the body of retained lipoids—the drainage tube remaining in place until normal blood and bile determinations are made—meanwhile the diet should be low in lipoids. After removal of the drainage tube and the closure of the fistula the blood should again be examined and if cholesterin content is high the patient belongs to the diathetic group.

*Diathetic management of the post operative cases:*

Principles (1). Diet low in lipoids.

(2). Diet poor in fats—which favor lipoid absorption.

*Foods rich in lipoids:* Eggs, cream, butter, meat and fish.

*Lipoid free foods:* Vegetables (excluding peas and beans), cereals, sugars, skimmed milk and butter milk (fat free).

Because of the difficulty of keeping a patient on a strict lipoid free diet—fast and feast day periods have been devised. For three or four days the patient lives on a strict diet in order to lessen the lipoid content of the blood. Following the first three or four days a more liberal diet is allowed—the diet including well cooked lean meat and fish (excluding salmon, shad, and blue fish—rich in fat). Oleomargarin is preferred to butter.

Conclusions: Adequate drainage reduces the hypercholesterinemia which can be guarded against post-operatively by careful dieting. The authors have under observation cases from which they have drawn these conclusions.—*Rothschild, Rosenthal, 1916, Am. Jour. Med. Sc., CLII, 394.*



## CLINICAL LABORATORY METHODS

By CLYDE L. CUMMER, M. D., Cleveland

**Microscopic Examination of Feces for Parasitic Ova.** A method for preparing feces for a search for parasitic ova was described as long ago as 1912 by Yaoita (*Deutsche Mediz. Wochen.*, 15 Aug., 1912, No. 33, p. 1540). It has been utilized by some workers in this city to whom I am indebted for calling it to my attention, but it does not seem to have received the attention that it deserved in text-books devoted to the subject. It is being recognized rapidly that the examination of feces is very frequently an important part of the general examination of a patient, but it is all too often neglected. Search for parasitical ova conducted in the manner outlined in the ordinary text-book often yields negative results, even when ova are unquestionably present. Doubtless this is due to the fact that the proportion of ova is small and that many slides would have to be examined. The presence of large amounts of food residue impedes the search, for the microscopic field is not clear. The method proposed dissolved practically everything in the stool except the certain resistant food elements and the ova. The sediment obtained is examined in the ordinary way.

Take from different portions of the stool about 5 small particles, each the size of a pea, and place in a test-tube with about 10 to 15 c.c. of a mixture of equal parts of 25 per cent antiformin and ether. Shake vigorously. There will be a marked evolution of gas. If the feces are hard, an emulsion should be made by stirring them with a glass rod, adding the antiformin, and, if necessary, applying heat. Then the ether may be added. The fluid is now filtered through a layer of loose gauze to remove the larger food remnants and the filtrate is centrifugalized in a centrifuge tube for one minute. Now four distinct layers may be made out. The upper one is ether, colored yellow by the dissolved neutral fats and fatty acids. The second is a ring with suspended fine food particles, while the third is antiformin, colored yellow-brown or blackish brown, containing detritus and dissolved food material. The lower layer, occupying only a portion of the tip of the centrifuge tube, contains the undissolved food material (cellulose, epithelium, salts, elastic tissue, muscle fibres) and the parasitic ova. The latter are affected little or not at all by the reagents. Fifty per cent antiformin has a deleterious effect upon the eggs.

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**Oxydase Reaction on Blood Smears.** The origin of many of the white blood cells is an uncertain matter. The differentiation between those of myeloid and those of lymphoid origin is of distinct importance. It has been known for some time that there was an essential difference between these two types of cells in that cells of myeloid origin contain oxydase ferments, while those of lymphoid origin do not. The practical importance of this differential measure may be apparent in the study of the leukemias. Evans (in the *Archives of Internal Medicine*, Vol. XVI, Dec., 1915, p. 1067) describes the technic of demonstrating oxydase in blood films.

(1) The smears must be as fresh as possible, not over six weeks old.

(2) They are fixed by exposure, in a closed jar for 6 hours, to the vapor of 4 per cent formaldehyde solution (that is, a 10 per cent solution of formalin, which is 40 per cent formaldehyde).

(3) They are then stained for 8 minutes to a saturated aqueous solution of safranin or a 2 per cent aqueous solution of pyronin, after which they are washed and immediately dried.

(4) The smear should be examined so that one may become familiar with the appearance of the cell types.

(5) *a.* On the slide is put 1 drop of solution I (1 per cent aqueous solution of dimethyl paraphenyldiamin) and 1 drop of Solution II (1 per cent solution of alpha-naphthol dissolved in 1 per cent KOH); or

*b.* The smear may be placed, film side up, on a slide and the solutions may be then dropped on the film. The reaction may be watched with the low power objective till its height, when the film may be dried and examined with the high dry objective.

The oxydase granules become blue-black and are usually confined to protoplasm, but may appear to lie over the nucleus. It is unfortunate that so far no satisfactory method of mounting for the purpose of making permanent preparations has been proposed. Dry and in the air the reaction endures in its original intensity for from 20 to 30 minutes.

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**A MEDICAL MISSIONARY'S LETTER**

By ROLLA E. HOFFMAN, M. D., Persia

From Meshed, Persia, Aug. 20th, 1916.

Yours of November 30th, 1915, reached me April 15th—censor to blame, I suppose—while yours of January 21st reached me March 28th, 1916. But letters are nearly all coming through in four or five weeks, so I hope you will not be discouraged from writing again. I wrote you February 27th, mentioning luetin as a valuable accessory, inasmuch as we do not have Wassermann tests, and about May 20th received a package of fifty ampules from P. D. & Co. I suspect you are to blame for sending it; thanks very much. So many neurasthenic Persians think they have syphilis that luetin will be a great asset to me, and, incidentally, all the better class must pay me \$3.00 for the injection.

To any one so desiring, fifty or seventy-five dollars could not be better invested than supplying me with some books. I could not bring many medical books with me, they are so heavy. I have an Osler, Yeo's Therapeutics, Binnie's Op. Surgery, May's Eye Diseases, and a physician in New Castle sent me Coakley's Nose and Throat, and Brown's Local Anesthesia, by book post. I have absolutely no one to consult, except an Indian doctor in charge of the English Consulate Dispensary, who speaks English and does some surgery, but is not a very thorough man, and the Russian military doctor, who speaks no Persian and very little English.

I also have, as you know, rather limited time for reading, so that books should be concise. But I do read, and am sorely in need of books. New Castle folks are also sending me the three handbooks of the A. M. A. on Therapeutics, Materia Medica, and the Pharmacopeia. You can't send books weighing over four pounds and six ounces, so the selection must be partly on basis of size. The W. R. U. Co-operative store could probably find out the size of the books as well as anyone. If you care to send me some books, here is a partial list of my needs:

A laboratory manual, *e. g.*, Emerson's or Ward's.

A dermatology. (Favus, eczema, lupus, psoriasis, ulcers are common.)

A surgery of the eye. (Cataracts, trachoma, glaucoma, etc, etc.)

A genito urinary diseases. (G. c. painfully common.)

A pediatrics. (I have Holt in New York; hope to get it after the war.)

A dietetics. (The people and servants know nothing of cooking for the sick.)

A diagnosis, *e. g.*, Hare's (Lea & Febiger).

A gynecology. (I have Kelly's (Medical) in New York boxed for shipment—after the war.)

An abdominal surgery. (Had four cases last year—cysts, pus-tube.)

A hygiene and sanitation. (Great opportunity to teach people decent living.)

A bacteriology. (We encounter all sorts of rare diseases.)

A fractures and dislocations. (Compound fractures—had four last year.)

An operative dentistry. (Very often have to pull teeth and dig out roots.)

A book on sexual impotence. (A very common complaint.)

A book on hospital management.

A book on surgical nursing, technique, etc. (I have to look after the nursing and supplies.)

An emergency surgery. (Burns, stabs, broken bones occur and come to me.)

An otology. (Discharging ears very common; three mastoids last year.)

You will readily appreciate my need for a lot of books, for I have to do everything, *e. g.*, I do all the laboratory work that gets done; skin diseases are common, especially favus; eye diseases are very common; gonorrhoea and syphilis galore; children's diseases—both English and Persian children suffer during the hot summers, and they die like flies. I need to adjust my ideas of diet to what is available and could teach people a lot from a good text. In spite of seclusion of women, I see a good many. I have to teach servants how to make supplies and have to do the managing of the hospital myself; have to pull teeth, roots, etc., and do all sorts of operations from mastoids and Killian operations to pus-tubes and compound fractures.

I have lost my copies of Cummer's Laboratory Technique and of the Lakeside G11. Dispensary's manual on treatment of G11. diseases and would very much appreciate it if you would send me a



copy of each (the co-operative store sells them); also, if not too much bother, get from Ruh a copy of Babies' Dispensary's latest literature on feeding babies, including formulae for preparation of Eiweiss milk, Keller's soup, and S. M. A., VIII, along with literature on the latter. If I get time I'll write Ruh myself, but am doing about all I possibly can this hot weather.

We open dispensary September 4th, and the hospital within a few days of that date, and expect a daily dispensary of 150 to 200. We hope to make enough money for running expenses; in fact, we'll have to do that or stop the work, for we have not a cent from the Board of Medical Work proper; whatever anyone gives us we shall try to put into equipment and make the work itself pay running expenses. The opportunity is truly wonderful here, and I can't imagine a better place to put in my life. The nearest mission hospital is Teheran, 600 miles of desert country away, and aside from the English Consulate Dispensary, in charge of an Indian, there is no place in all this province (the size of Germany) where Persians can get modern treatment, not to mention the regions of Afghanistan, Beluchistan, Seistan and Trans-Caspian Russia.

We need money desperately, and can use all our friends can supply to good advantage.

I hope ere many years some ambitious Western Reserve University man will join me. Two men could certainly make things hum.

With my best regards, and hoping to hear from you soon, I am,

Sincerely,  
ROLLA E. HOFFMAN.

OPERATIONS

The American Hospital, Teheran, Persia, Year 1915-1916  
Hospital Opened Sept. 28, 1915, Closed June 1, 1916

Abscess, miscellaneous .....	14	Empyema rib resection.....	6
Adenoids (alone) .....	2	Empyema intercostal op.....	1
Amputation—arm, 2; hand, 1; finger, 1; foot, 3.....	7	Entropion .....	21
Ascites tapped .....	10	Enucleation of eye .....	2
Canthoplasty .....	1	Fistula in ano.....	7
Carbuncle of back.....	1	Fistula, recto-vag.....	2
Cataract extraction .....	89	Fistula, vesico-vag .....	2
Cataract needling .....	4	Fracture, compound—jaw. 1; femur, 2; Potts', 1.....	4
Circumcision .....	5	Fracture, old, humerus, simple.....	1
Cystoscopic .....	2	Ganglion wrist, excision.....	1
Dislocation—hip, 2; jaw, 1.....	3	Haemorrhoids, cautery .....	3
Empyema aspiration .....	2	Haemorrhoids, ligation .....	2

Hare lip .....	3	Stone, urethra, incis. perineal.....	2
Hammer toes, plastic.....	1	Testicle, undescended .....	1
Herniotomy, inguinal .....	22	Tonsillectomy .....	7
Hydrocele, radical op.....	2	Trachoma Grattage (anesthesia)..	4
Iridectomy .....	8	Trachoma Turashidan .....	11
Laparotomy, cyst broad lig.....	1	Tuberculosis of rib, curett.....	2
Laparotomy, ovarian cyst.....	3	Tuberculosis of glands axilla.....	1
Laparotomy, pyo-salpinx, vent. fix.		Tuberculosis of joints, incis. curet.	6
D. & C. ....	1	(Ankle, 4; elbow, 2).	
Liver abscess, aspiration .....	3	Tumors:	
Liver abscess, incision drain.....	4	Carcinoma of back, cautery.....	1
Mastoid, radical .....	2	Carcinoma of breast, complete	
Mastoid, simple .....	1	amputation and axilla.....	2
Neosalvarsan .....	7	Carcinoma of testicle, orchi-	
Osteomyelit., acute, drainage.....	2	dectomy .....	1
Osteomyelit., chronic .....	10	Cyst of orbit, excision.....	5
Plastic of lip .....	1	Fibroid of breast, excision.....	1
Plastic, nose .....	1	Fibroid of jaw, excision.....	1
Plastic, hand—Dupuytren's ctr.....	1	Fibroid of uterus, excision.....	1
Plastic, tendo Achilles length'd....	1	Haematoma of arm.....	1
Plastic, web fingers separated.....	1	Haematoma of head.....	1
Prostatectomy .....	1	Lipoma, excision—shoulder, 2;	
Pterygium .....	2	breast; thorac wall .....	4
Ranula, mouth and neck, excision	1	Moiibomian cyst .....	2
Sequestrum, bony, removed—		Polypus nose .....	3
Femur, 3; foot, 3; hand, 1;		Polypus uterus .....	1
humers, 3; skull, 1.....	11	Sarcoma thigh, excision.....	1
Silak (Oriental sore), cautery.....	1	Uterus, D. & C. (only).....	2
Silak (Oriental sore), curette.....	2	Uterus, prolapsus, complete.....	1
Sinus, post-op.....	3	Varicocele, radical cure.....	1
Antrum Highmore, irrig.....	5	Varicose veins of leg—	
Sinus, frontal, Killian op.....	2	circular incision, ligation.....	2
Spur, nasal septum .....	1	Wens, scalp; near eye.....	3
Stone, bladder crushed.....	4	Wounds, scalp .....	2
Stone, bladder, supra-pub. op.....	4		

By far the greater number of these operations I performed, and in nearly all of the others assisted. R. E. H.

**Hemolytic Jaundice.**—G. A. Fredman and Elihu Katz, New York (*Journal A. M. A.*, Oct. 28, 1916,) report a case of acquired hemolytic jaundice relieved by splenectomy, which is the first, or one of the first, cases of this kind reported in American literature. In their comment on the history, they review the facts regarding hemolytic jaundice and its pathologic causes. The spleen has been classed among the ductless glands with one of its special functions, hemolysis. Hyperactivity of splenic function due to some unknown pathologic condition leads to an excessively marked hemolytic action called by Eppinger "hypersplenism." The hemolysis disappears or is strikingly altered by removal of the spleen, and some experimenters claim to have obtained an extract from the organ with hemolytic properties. The evidence for this is, however, meager. Another possible explanation of the condition is found in the association of unsaturated fatty acids and hemolysis. In splenectomy these fatty acids are reduced. The authors also describe the special features of the blood in hemolytic icterus, the increased fragility of the red blood corpuscles, which, however, may be continued even after splenectomy in some cases. The phenomenon of auto-agglutination has also been described in the acquired type, but it was absent in the case reported. The anemia in the hemolytic icterus is not as a rule severe, and is the direct result of the destruction of the blood. The splenomagaly is one of the principal characteristics, and the authors believe that splenectomy gives the best results in treatment.



**Retrobulbar Neuritis.**—A further note on the diagnostic value of retrobulbar neuritis in expanding lesions of the frontal lobes is published in the *Journal A. M. A.*, Nov. 4, 1916, by Foster Kennedy, New York. He had previously called attention (*Am. Jour. Med. Sc.*, September, 1911) to the diagnostic syndrome of a true retrobulbar neuritis with the formation of a central scotoma and primary optic atrophy on the side of the lesion together (if pressure is sufficiently great) with ipsilateral anosmia and papilledema in the opposite eye. He reports a case of this syndrome, with necropsy, and says that it is offered for two reasons: first, for the remarkable rarity of the aneurysm of the right internal carotid, and second, and chiefly, because its symptomatology offers a very important clue to the diagnosis of expanding lesions in the subfrontal area. The aneurysm was quite unsuspected during the patient's lifetime, and the account is given in the hope that the recognition of this syndrome may aid in the diagnosis of certain obscure cases of frontal neoplasm and perhaps at the same time serve in a measure to separate a group of cases from the great generic classes of toxic amblyopias.

**Corpus Luteum.**—Emil Novak, Baltimore (*Journal A. M. A.*, Oct. 28, 1916), reports the results of a study of the normal life cycle of the corpus luteum in relation to the menstrual cycle to determine whether any histologic variations in the lutein structures of the ovary can be found to explain the various menstrual disorders. The paper gives results of the clinical and histologic study of 137 cases from the gynecologic department of the Johns Hopkins Hospital. The corpus luteum is described at length and from its earliest stages, and case histories are given to illustrate the statement made. The later stages are passed over more briefly. The origin of the lutein cells, the atresia folliculæ, the theca lutein cells and lutein cysts, are subjects also taken into account and described. The question whether amenorrhea on the one hand or excessive menstruation on the other are associated with differences in the lutein content of the ovary is discussed in his clinical considerations. The indispensability of the corpus luteum to menstruation can be determined with most accuracy by histologic methods. During the menstrual life of the normal woman luteum tissue in some stage or other is always to be found in the ovaries, while in the nonmenstruating woman the corpora lutea are absent. Amenorrhea of lactation is explained as possibly due to a hormone which tends to inhibit or counteract the secretion of the corpus luteum, and a similar explanation suggests itself with regard to the amenorrhea of hypopituitary obesity, while that of anemia, phthisis, and other debilitating conditions is due either to an inhibitory effect on the secretory cells of the corpus luteum or more probably to the failure of ovulation itself. A careful study of ovaries in these cases is needed to determine which of these two is responsible. The problem of excessive menstruation is more difficult to solve. It can hardly be said to be proved that it is due to an overdevelopment of the corpus luteum, and we cannot forget the all-important fact that though the ovarian secretion is the immediate cause of menstruation, this function is also influenced by practically all the other endocrine glands of the body. Formerly anatomic causes were credited for uterine bleeding. The evidence is now pointing more and more toward the importance of functional disturbance in the ovary and of the endocrine system of which it is a part. Such bleeding as occurs with destructive lesions like cancer is of course an exception.

# The Cleveland Medical Journal

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All remittances to the Journal should be made payable to The Cleveland Medical Journal.

Short notes upon clinical experiences or reports of interesting cases will be welcomed by the editors.

Original articles are accepted for publication by this Journal only with the distinct understanding that they are contributed solely to this Journal and will not be published elsewhere as original.

## EDITORIAL

### ADVERTISING AS A MEANS OF PROTECTION

Self-styled "specialists" and nostrums guaranteeing a speedy cure of venereal disease are to be fought with their own weapons of advertising by the Cleveland Division of Health.

Through co-operation with a committee of the Federated Churches, the Division of Health has arranged for the printing of



several thousand enameled signs warning venereal disease victims to beware of quacks. It is also planned to establish diagnostic clinics for these diseases in connection with the city tuberculosis dispensaries.

The signs will be placed in the toilet rooms of public buildings, in saloon toilet rooms and in public comfort stations. At the dispensaries the applicant will be given advice regarding the treatment of his particular disease and will be referred to a physician. Special treatment will be arranged for when needed. If the patient is unable to pay, he will be treated at one of the free dispensaries, at City Hospital or by one of the city physicians.

The signs lay special emphasis on the fact that sufferers from gonorrhea, syphilis or other secret disease need medical attention at once, but that it must be the right kind of medical attention. They also call attention to the fact that the advice given at the dispensaries is free and confidential.

The dispensaries where it is planned to establish the diagnostic clinics are located at 1510 E. 49th street, 502 Central avenue, 2165 Gehring avenue, 5825 Cable avenue, 8906 Woodland avenue, 1114 E. 79th street, and 6028 Pear avenue.

The clinics will probably open shortly after the first of the year.

### **New Code Ready**

Final drafts of a new sanitary code are being completed by the city Division of Health, working with the Housing and Sanitation Committee of the Chamber of Commerce, and the revised code will be submitted to the city council shortly. The measure codifies existing sanitary regulations and enlarges the powers of the Bureau of Sanitation.

R. H. B., Jr.

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## THE MEDICAL MISSIONARY

To those interested, there will be found on another page of the *Journal* a letter from a former Western Reserve man—Dr. Hoffmann, now a Medical Missionary in Meshed, Persia.

Twenty-five to fifty years ago, a Missionary went out for his life's work more often with his Bible, a firm resolve and little else; even then he was able to do much. However, contrast this man with the modern Medical Missionary, educated up to the minute and carrying to far-off corners of the world such technical knowledge and skill as the inhabitants would not otherwise receive in one hundred or twice one hundred years. It is only necessary for the reader to look over the work done by Dr. Hoffmann this past year for proof of our assertion.

Western Reserve has turned out many Medical Missionaries of whom we can well be proud, *e. g.*, Drs. Dilley, in Peking, China; Ludlow, Chief Surgeon in Severance Hospital, Seoul, Korea; Moffet, in Africa; Love and Hoffman, in China; and Ellis and Hoffmann, in Persia, and many others whom we are sorry to say we do not know or we would surely not neglect to mention them. The Medical Missionary of today does not go to the field of his endeavors because he is a failure everywhere else, but on the contrary for the reason that he is usually one of the most capable and worthy of students and physicians with a compelling desire to be of service to the world, often leaving fine opportunities and wealth at home to practice his noble calling. That these men should all be seconded and assisted in their high and worthy efforts, goes without saying, and Dr. Hoffmann writes that any medical books or supplies, monies, etc., that can be given will be highly useful and help to advance the cause greatly in his particular field, which is "as large as Germany."

Any brother physician desiring to help Dr. Hoffmann or others in the foreign field can ascertain from the Editor of the *Journal* or from the Librarian of the Cleveland Medical Library where such contributions should be sent.

H. N. C.

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## DEPARTMENT OF THERAPEUTICS

By J. B. McGEE, M. D., Cleveland

**Strychnine:** In the *New York Medical Journal* for Nov. 11, William Forsyth Milroy treats of strychnine as a tonic. He believes that the profession as a whole only half appreciates its therapeutic value. Doctors are afraid of it. Few realize what it can accomplish when given in maximum therapeutic doses, and it is of that phase of the subject that he writes. He does not know who first used strychnine in maximum doses as distinguished from those ordinarily employed. The idea was new to him when suggested by the late William Pepper in a paper about twenty years ago, he recommending it in pulmonary tuberculosis and it is in this disease that Milroy has frequently employed it. He usually gives the drug by the mouth, four doses daily. He begins with one-thirtieth of a grain, and adds one-thirtieth to the daily allowance at the end of each five day period until eight-thirtieths are being given daily, then reducing the increase to one-sixtieth until the limit is reached. With the patient in the hospital under careful observation, it is possible to increase the dose much more rapidly, thereby reaching the maximum earlier. It is convenient to employ a one per cent. solution, but it is not as a rule, practicable to use hypodermic injection over a long period of time. The maximum dose is indicated by the occurrence of muscular rigidity. This, he has observed most frequently in the posterior muscles of the neck, next in the muscles of the inferior maxilla, and sometime they appear first in the anterior muscles of the thigh. As soon as this physiological effect of the drug appears, the dose is reduced, only a little when the muscular rigidity disappears: it is at this dose that the greatest benefit is obtained. The results obtained in tuberculosis are sometimes almost beyond belief, and he does not base this opinion upon his individual experience alone. It is by no means proposed to supplant by strychnine the treatment of tuberculosis, as now carried out by rest, fresh air and rich food. There is, however, a multitude of cases in which it is impossible to secure sanatorium treatment or any approach to sanatorium conditions at home. He earnestly insists that in such cases, especially of the more acute type, and in sanatoriums, when the disease does not yield promptly strychnine should be given a trial. He also insists that it has not been properly tried, unless administered in maximum doses. Certain nervous diseases offer a fruitful field for the use of strychnine in maximum doses. He quotes P. Hartenbery, who gives it hypodermically, increasing the dose to as much as one-sixth or one-third of a grain which he says may be repeated once or twice in a single day. Under this treatment in simple neurasthenia permanent recovery usually takes place in from ten days to two weeks.

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**Cholecystitis:** In the November number of the *Therapeutic Gazette*, R. Alexander Bate presents certain observations on the medical aspect of cholecystitis and cholangitis, which he states has to him always seemed clear. The spirit of the times has favored mechanical or empirical rather than scientific or rational therapeutics. In the medical treatment of cholecystitis and cholangitis complicated by gallstones, the bismuth preparations seem decidedly harmful instead of beneficial. There are several drugs which are supposed to enter into combination with the biliary constituents, and the specific action of these various medicaments may be thus secured. Of these drugs perhaps the valerianate of amyl offers the most promising results. It not only acts as a sedative and quiets the muscular spasm, but also has a solvent effect upon cholesterin; for these reasons it should be used in all cases instead of morphine, which has been most highly recommended. Of the various fatty substances or oils which have been advocated, glycerine is now coming into prominence. As lecithin is a normal constituent of bile, and also a solvent of cholesterin, any medicament containing

lecithin is indicated. The explanation of the great popularity of olive oil in the treatment of gallstones is because of the large percentage of lecithin it contains. Lecithin is the material which holds in solution various solid biliary constituents, besides its detoxicating and lipoid effects; therefore the administration of lecithin-containing medicaments is certainly the most rational therapy. It has been said that anything which will increase the circulation of blood through the abdominal viscera will augment the biliary secretion. It has been suggested that the mucin contained in the bile is a substance similar to secretin or a hormone accumulated during the period when the gall-bladder is inactive. As to surgery when medical treatment has proven ineffective Mayo shows forty per cent of cures from cholecystostomy, and seventy-one per cent from cholecystectomy. Of the cholecystostomy cases only forty-eight per cent. were found to have biliary concretions when the gall-bladder was opened. Thus more than fifty per cent. of the patients merely had symptoms resembling those due to gall-stones. In the cholecystectomy cases there were also a number without gall-stones which would reduce the cured gall-stone cases to about twenty-five per cent. So it would appear that medical treatment is indicated in at least seventy-five per cent. of cases, if the presence of gallstones may be considered the basis of surgical intervention. He does not maintain the position that surgical intervention is never necessary in the treatment of gallstones: Under certain circumstances the aid of surgery should be invoked when permanent improvement does not follow medical treatment.

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**Ovarian Substance:** The October number of *American Medicine* considers the use of total ovarian substance or of corpus luteum. For a number of years there has been a "run" in current medical literature on the importance of preparations of the corpus luteum in organo therapy as compared with the total ovarian substance in similar indications. At that time opinion seems to have been very firmly in favor of corpus luteum of pregnancy as the only really therapeutically active portion of the gland. There has been a good deal of discussion about this, and only recently have several weighty opinions been advanced in favor of the desiccated gland instead of the Graafian follicles without any of the stroma admixed with them. Blair Bell in his recent book, "The Sex Complex," remarks that there is no reason for using the more expensive and less easily obtained corpus luteum instead of the total ovarian substance, claiming he gets better results from the total gland. W. P. Graves in a recent consideration of the practical aspects of the internal ovarian secretions says (*N. Y. State Journal of Med.*): he has found extract of the whole ovary more efficacious in the treatment of functional amenorrhea than extract of the corpus luteum. Bandler agrees with this position, and does not now use corpus luteum extract. Graves also remarks that "luteum extracts are prone to disturb digestion, while ovarian extract is seldom toxic." Rabinovitz (*Am. Journal Obstetrics*) differentiates the physiological function, as well as the therapeutic indications of the follicular and luteal substance from the ovaries, and suggests that cases due to hypo-ovarism, including amenorrhea, sterility, infantilism, certain forms of dysmenorrhea and metabolic dyscrasias in which ovarian insufficiency is present may be successfully treated with the follicular extract (or whole gland). On the other hand this writer includes two quite dissimilar conditions as those best treated with corpus luteum, viz.: (1) cases of hyper-ovarianism including functional menorrhagia or metorrhagia, increased sexual appetite, and osteomalacia; and (2) cases with what Rabinovitz calls "hypoluteism," or those with emesis gravidarum, and other forms of toxæmia of pregnancy, eclampsia, etc. There is no doubt that there is an active principle in corpus luteum; but it seems that in many instances as good or better results follow the use of the considerably cheaper ovarian substance.

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**Mercuric Chloride:** *The Medical Record* for Nov. 11th comments editorially on the antidotes in mercuric chloride poisoning.



The popularity of mercuric chloride as a means of suicide has led to the proposal of a large number of substances as antidotes to its poisonous action. Many of them have been tried from time to time, but generally without much effective result. Fantus' report (*Jour. Lab. and Clinical Med.*) makes very interesting reading. He first established the fatal dose of the drug for rabbits, and determined the average length of life of the animals after they had been poisoned. He then determined the influence of the various antidotal measures when applied at the time the poison was administered or subsequently. He was able to show that dilution had no effect aside from a mitigation of the local lesions, and that albumin, the standard antidote, was unable to prolong the life of the poisoned animal except when given at the same time as bichloride. Sodium bicarbonate sodium acetate and stannous chloride each had a certain amount of antidotal effect, and might be expected to be of some use, though not very reliable. He was able to obtain much more favorable results with the use of Carter's antidote, which consists of three parts of sodium phosphite, and two of sodium acetate. This was efficacious in greatly prolonging the life of the poisoned animals even when it was given after the administration of the sublimate. A substitution of sodium hypophosphite for the phosphite gave results that were quite similar, though perhaps more uniform. His best results were obtained with an antidote composed of one part of sodium hypophosphite and five parts of hydrogen peroxide. This combination of a reducing and an oxidizing agent has no chemical justification, but his results were uniform, and he suggests the explanation that the peroxide acts as a catalyzer. Fantus is careful to explain that the eliminative treatment which has met with such success at the hands of Lambert and Patterson, should not be neglected merely because an apparently efficient antidote has been found. The excellent results were obtained by these investigators without any such antidote, but it is reasonable to believe that such chemical treatment might at least hasten the time of recovery. The author advises that if the amount of poison is known, the amount of hypophosphite used shall be ten times the amount of bichloride taken. As this dose itself might be poisonous, it would be wise to wash the stomach thoroughly after giving it with a very dilute solution of the antidote, and a safe dose could be left in the stomach. It is very gratifying that such information is now at our command and the mortality from sublimate poisoning should be much lower in the future than it has been in the past.

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**Intestinal Stasis:** Fred M. Hodges in the October number of the *Charlotte Medical Journal* considers the treatment of intestinal stasis. At one time the treatment was almost entirely medical, then dietetic; then in many instances surgical. Now a combination of some or all of these methods with a systematic and common sense way of living, is employed. Due to the large percentage of individuals who are chronically constipated, practically every form of treatment has been carried out, and sufficient time has elapsed to justify definite opinions as to their real value. The two most important hygienic measures are (1) the habit of going to stool at certain time every day and (2) physical exercise. It is entirely too easy to write a prescription for two cathartic pills followed by a saline, and let it go at that. Exercise, if possible, should also be a diversion and should bring all the abdominal muscles into play. Tennis, swimming, rowing, gymnasium, horse-back riding and special exercises at home are beneficial. Massage is of value in a few cases, but will not take the place of exercise. During the first week give enough medicine to make the bowels move. During the usual treatment for marked constipation, a mercurial (preferably blue-mass in  $\frac{5}{8}$  grain doses) should be given every week or ten day. Agar with phenolphthalein or cascara given twice a day is one of the best laxatives for prolonged usage. After using these preparations for two or three weeks, plain agar in tablespoonful doses should be gradually substituted. Liquid paraffin gives good results as long as the drug is used. Every patient should be

told that drugs should be eliminated as soon as possible. The plainly surgical cases are not as frequent as were once supposed; but their recognition is very important, as medical treatment may be valueless, or we may have an acute obstruction or an early carcinoma.

**Tetanus:** Charles Langdon Gibson in the *American Journal of the Medical Sciences* for December writes as to the comparative value of the methods of treating tetanus. His conclusions are that it is presumed that the wound treatment will be that suitable to the injury, and particularly to the most efficient form of drainage, and liberation of sloughs, removal of foreign bodies, etc., that may harbor tetanus germs or favor their development. He doubts if we are justified today in performing an amputation for the relief of tetanic manifestations, as in the intraspinal administration, we have gone a step further in efficiency. He also omits the questions of nursing and the use of sedatives. One sedative, however, is alluded to as it has been thought to have curative qualifications *per se*, namely the chloretone treatment advocated by Hutchings. He is also inclined to make a trial of atropin as a method of controlling spasm, as this drug has lately impressed him greatly in treating spasmodic contraction of the pylorus. Antitoxin treatment should be begun immediately on suspicion of tetanus developing rather than waiting for the classical symptoms. If this principle is firmly established, he believes we shall have done much to lessen the dangers of the disease. Antitoxin should be given at once, first into the wound or region of the wound, say 1,500 units, intraspinally, without an anesthetic, unless the treatment of the wound calls for the use of a general anesthetic 5,000 to 20,000 units. During the first twenty-four hours, in addition to the above, 10,000 to 20,000 units should be given intravenously in divided doses, say two or three. Antitoxin intravenously from 5,000 to 10,000 units should be given next day no matter whether the symptoms remit or increase. On the third day, if notwithstanding the treatment, the symptoms continue very severe or appear worse, the intraspinal treatment should be repeated. The intraspinal of course gives temporary increase of symptoms and steep elevation of temperature, but this fact need not of itself cause alarm. If after this treatment the patient holds his own or improves, the intraspinal need not be repeated, but the daily injection of the antitoxin intravenously, should be given until obvious remission or cure results. The severity of the cases vary, and resulting treatment will depend on this factor. One case received a total of 169,000 units, 29,000 of these being given intraspinally in six sessions, in this case daily, though he doubts if this frequency is often indicated. While his series of cases is small that many of them were of the severest type he is quite convinced, but he felt that the intraspinal method gave complete control of the situation. Hence he feels that he hesitates to offer any other method of treatment unless better evidence is shown of its superiority.

### NEW AND NONOFFICIAL REMEDIES

Swan's Bacillus Bulgaricus.—Pure culture in tubes of the *bacillus bulgaricus*. It is designed for internal administration and for direct application to body cavities, abscesses and wounds. The culture is supplied in boxes of twelve tubes. The tubes must be kept in a cool place and must not be used after the date stamped on the package. Swan-Myers Company, Indianapolis, Ind. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1601.)

During November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

H. K. Mulford Company:

Mercurialized Serum—Mulford, No. 5-A and 5-B.

Mercurialized Serum—Mulford, No. 6-A and 6-B.

Swan-Myers Company:

Swan's Bacillus Bulgaricus.



## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred and thirty-third regular meeting of the Academy of Medicine was held Friday, November 17, 1916, at the Cleveland Medical Library, the President, Dr. Wm. Evans Bruner, in the chair.

The minutes of the last meeting were read and approved.

The minutes of the Council meeting of November 14th were read and approved.

Dr. C. L. Cummer, in presenting the report of the tellers, stated that the canvass showed the following nominations:

*President*—Dr. John Phillips.

*Vice-President*—Dr. C. L. Lenhart.

*Trustees*—Dr. L. W. Ladd and Dr. S. J. Webster.

Dr. Cummer read in addition the names of those receiving the next highest nominating votes.

Dr. H. L. Sanford moved that the tellers be asked to report the next highest in vote up to the required number of nominees and that the report of the tellers so constituted be the list of nominees. Carried.

The chair suggested that it would be best to take the offices in order.

The tellers then reported in addition to Dr. Phillips, Drs. L. W. Ladd and R. K. Updegraff for President.

Motion by Dr. Sanford that the rules be suspended and that the Secretary cast the ballot for these as nominees for President in addition to Dr. Phillips. Seconded by Dr. C. W. Moorehouse. The chair then declared the nominations for President to consist of Drs. Phillips, Ladd and Updegraff.

The tellers reported the names of Drs. J. C. Placak, W. H. Weir, and A. J. Skeel as being next highest in votes for nominations to the Vice-Presidency.

Dr. Weir requested that his name be withdrawn, as he is serving as Trustee. Withdrawal accepted.

Dr. Follansbee moved that the Secretary cast the ballot for Drs. J. C. Placak and A. J. Skeel as additional nominees for Vice-President. Carried.

The President then declared the nominations for Vice-President to be Drs. C. H. Lenhart, J. C. Placak and A. J. Skeel.

The tellers reported in addition to Dr. Webster the following additional names for Trustees: Drs. E. O. Houck, A. M. Lueke, E. Klaus, R. H. Birge and F. E. Bunts.

Dr. H. N. Cole moved that the Secretary cast the ballot for these as nominees for Trustee in addition to Dr. S. J. Webster. Carried.

The chair then declared the nominations for Trustees to be Drs. S. J. Webster, E. O. Houck, A. W. Lueke, E. Klaus, R. H. Birge and F. E. Bunts.

Dr. G. E. Follansbee, local committeeman of the Committee on Medical Defense, called attention of the members to the provisions and rules governing the operation of medical defense.

The chair appointed the following Auditing Committee: Drs. J. B. McGee, B. B. Colvin and H. N. Cole.

### Program

#### 1. Pyloric Stenosis in Infants, by H. G. Sloan, M. D.

Dr. Beardsley was the first to describe a case of pylorospasm in an infant; however, the first detailed pathological account was published by Hirschsprung.

As to the etiology of pyloric stenosis, we have the congenital theory, that is to say, the child is born with the hypertrophy of the musculature about the pylorus. Many cases of pyloric stenosis go along undiagnosed, or are considered as cases of inanition or marasmus. A certain proportion of these recover without recognition of the actual condition. One man in this city reports four cases of pyloric stenosis out of four hundred cases

within the last four years. Holt reports 90 per cent of the cases occurring in breast-fed infants, 80 per cent of which are males.

The pathological picture is one of hypertrophy and overgrowth of the pyloric musculature; the circular muscle fibres are involved. By this overgrowth of musculature the mucosa is interfered with. The hypertrophy is annular and of fibrous hardness to the touch. In some cases we find a dilatation of the stomach, but this usually occurs in cases where the stenosis existed for a long time.

The first sign of a pyloric stenosis is vomiting, which is expulsive in type, and usually unaccompanied by nausea. A certain number of cases get along fairly well with restricted feedings. The upper portion of the abdomen shows marked peristalsis which begins at the left and radiates to the right. In 15 per cent of the cases a tumor mass can be palpated through the abdominal wall, especially after a feeding. The demonstration of the tumor is not paramount. When there is complete obstruction, the stools have the appearance of meconium; the total output of urine per day is likewise lessened. The starvation picture is progressive, and in a well-marked case it takes about three months before the child dies. An early diagnosis of the condition is of great importance.

We have several methods at our disposal that will help us in the diagnosis. A determination of the actual obstruction can be made by giving the child a measured quantity of food and drawing the meal off after three hours, or by passing a duodenal tube. The X-ray, however, is the best method of diagnosis. Projectile vomiting during the first three months of life should make one suspicious.

The medical treatment entails a very long supervision, the child is exposed to the danger of acute inanition, marasmus, and some die suddenly without any apparent cause. The indications for operation are: (1) No subsidence in the vomiting. (2) A weight loss of 50 gms. per day. (3) Obstruction demonstrated by the X-ray. (4) Absence of fecal stools. The previous high mortality was due to late operations performed upon children in extreme starvation. We have the choice of two operations—the gastro-enterostomy or the Ramstedt operation. In the former there is a considerable amount of mutilation and most children do not recover. The Ramstedt operation is by far the best, since there is much less mutilation.

Children with pyloric stenosis are usually starved and show acetone in the urine; we therefore administer enemata every hour before the operation. Thirty c.c. of sodium bicarbonate and glucose solution are given in the enemata. During the operation the child is kept warm by means of hot water bottles; the entire body except the operative field is wrapped in cotton. Very light ether anesthesia is employed with novocain infiltration locally. When the tumor is exposed, it is held firmly between the thumb and forefinger, and a longitudinal incision is made through the musculature down to the mucosa. The incision is directed towards the duodenum. If the hemorrhage cannot be controlled by ligatures, a piece of abdominal muscle is placed in the incision for a few minutes, and this usually suffices to stop the bleeding. The incision is left open, and the pylorus is replaced under the liver, the abdominal incision is then closed with silk worm gut and reinforced by adhesive bands. Food can pass through the pylorus 24 to 48 hours after the operation, as was shown by the X-ray. The mortality following the Ramstedt operation is very low.

Discussion by Dr. Karsner, closed by Dr. Sloan.

(Dr. Sloan's paper will be published in full in the December issue of the *Journal*.)

## **2. Recent Progress in the Study and Therapeutics of Cancer, by Francis Carter Wood, M. D., New York City.**

In a very interesting manner Dr. Wood outlined the problem of cancer investigation, stating that very much can be done by the clinician through accurate method of case record, combining clinical and pathological data. Such clinical work should supplement experimental research.



We know almost nothing about the causes of tumors, although it has been a subject of discussion for a very long period of time, approximately 30,000 years. Regardless of the fact that this subject has been so studied, there is still a great deal to be done clinically. The clinician has a much greater responsibility than the mere diagnostic and operative procedure. It is a well known fact that some tumors have a tendency toward spontaneous recovery, although they are clinically and pathologically malignant. The pathologist merely associates one pathological picture with another and draws his deductions as to whether a tumor is malignant or not.

Microphotographs and complete records should be published for statistical data. The surgeon must encourage post-mortem examination and the publishing of his records. They should attend autopsies and see the distribution of tumors. The accurate collection of statistics by the Board of Health should be encouraged. It is by these methods that we may some day be able to arrive at the solution of this ponderous problem.

The laboratory study of cancer began in 1890 and since this field has developed enormously. The tumors are transplanted into animals of the same or different species. Artificial media have likewise been employed. The tumors which have been transplanted resemble the original tumor very much, except that they have a tendency to metastasize through blood vessels rather than by way of the lymphatic system.

Cohnheim's original theory, regarding the displacement of particles of tissue, is still valid, his hypothesis as to the cause of tumors is no longer accepted. It is a well known fact that aberrant particles of cartilage are found in the tonsils, but these do not necessarily grow and become malignant. The parasitic theory is a very popular one; there are some points in favor of this view, however many against it. No parasites were ever demonstrated; cancer can be ground up very fine, and then injected, but no cancer develops. A cancer may develop in the breast, and remain quiescent, and not give off metastases. If it was filled with parasites it certainly would metastasize in other parts of the body. An immunity against an implantation of a tumor can be brought about by normal cells, *i. e.*, by injecting an animal with normal spleen, lymph node or skin which has been carefully ground up. After this procedure a tumor implantation fails to grow. No case of cancer gives a complement fixation test nor has any filtrate ever produced a cancer. It is on account of the above-mentioned reasons that the laboratory man is opposed to the parasitic theory.

There are certain tumors which are definitely due to irritation, but irritation itself does not cause cancer, it merely facilitates its formation. Some tumors we can definitely ascribe to irritation, such as tumors following exposure to X-ray. Every surgeon is well aware of the fact that tumors especially malignant in character should not be handled too much, as the danger of metastasis is increased. We tried a series of experiments with different mouse tumors, in which the tumor was massaged lightly for a variable period of time. Control animals were killed at the same time the experimental animal died or was killed. We found that metastases have increased markedly in some instances. Different tumors acted differently towards this massage. Many showed metastases in the lung, with the greater portion undergoing proliferation. We are endeavoring to find the conditions which bring about the self-cure of mouse cancer. Foreign tissues live for two weeks and then drop, *i. e.*, a rat will nourish a mouse tumor for about two weeks and then refuse to do so.

Murphy's experiments are very interesting and of great importance. The bone marrow was entirely destroyed by X-ray in a certain series of animals. When tumors were implanted they would grow very rapidly. If a stimulating dose of X-ray was used, so as to increase the production of lymphocytes rather than diminish it, the tumors would grow very slowly and in some cases subside entirely. In human tumors we see a surrounding lymphocytic infiltration, and this seems to be a protective mechanism, since in some cases the cancer grows with extreme rapidity, after X-ray or

radium treatment. Evidently the lymphocytic barrier has been destroyed. Embryo chicks can be inoculated with tumor particles, they will grow until the bone marrow develops, then the growth ceases. Breeding of animals of cancer ancestry shows that tumor incidence can be doubled by inbreeding. Cancer is apparently increasing in this country, in England it is decreasing; it is questionable whether the actual number, however, is increasing.

Dr. Wood then showed lantern slides of microphotographs of various rat and mouse tumors, and also showed the changes taking place in the sizes of tumors after cancer cures. Colley's serum, X-ray and radium have been applied.

No changes could be noticed, when certain cancer cures and sera were administered. Some tumors have subsided, but the control animals which had the same type of tumor likewise lost their tumors without any treatment. These were tumors which evidently had a tendency towards spontaneous cure. In some cases X-ray and radium exposures would stimulate rather than diminish the growth of tumors. There were still remnants of tumor tissue left in several cases that have been exposed to X-ray. After X-ray or radium exposure, the cells die off and form thrombi in the vessels and subsequently an edema of the interstitial tissues sets in, thus producing destruction of the tumor mass. This destruction is not always complete. Therefore I would never expose an operable tumor to the X-ray or radium, since stimulation of it may take place.

We have as yet arrived at no definite therapeutic measure; it may take years and years before we arrive at a solution of it. At present surgical procedures, combined with X-ray, is very valuable. If we expose the area about the site of a cancer which has been removed surgically, we minimize the danger of metastasis, since the newly formed cells succumb readily to the X-ray radiations, whereas the old cells of the original tumor may be stimulated.

Dr. Wood brought out the fact that radiation is either stimulating or destructive according to the doses used. In closing he said that he had endeavored to speak of those things which he thought would be of general interest or of aid to the physician having to deal with malignant cases.

Of course, the experimental investigation of malignancy, in fact the whole problem of malignancy has only begun to be studied and no one can predict when a solution will be had.

In the discussion of the paper C. E. Briggs asked as to the efficiency of Coley's serum and whether he understood Dr. Wood to say that cancer cells differed very little from normal cells.

H. N. Cole asked if he could state anything about the results of Dr. Clark's experiments and the use of diathermy.

G. W. Crile said that in his experience malignancy in obese and in florid individuals had been more unfavorable from an operative standpoint than in other types. He asked how it was possible to collect accurate statistics as to malignancy when even pathologists might disagree among themselves as to the type of a given tumor, and could Dr. Wood state what type of tumor he would be absolutely sure of as malignant. He cited as an example the difficulty in determining whether one were dealing with an adenoma or an adeno-carcinoma of the thyroid glands.

J. E. Tuckerman asked Dr. Wood's opinion as to the advisability of radiating areas from which malignant tumors had been removed.

C. E. Briggs asked whether in such radiation he favored radiation of the open wound.

Dr. Wood in closing stated that he believed radiation was advisable in all such cases and should be carried to point of tolerance; that he saw no advantage in radiating the open wound, and that he had seen infection in such open wounds which he thought outweighed any possible advantage.

As to Coley's serum, his information was that the results as to ultimate cure were negative, although certain cases of bone sarcoma show for a time marked improvement. As to Clark's experiment, he was unable to say.



He said that as radiation with X-ray or with radium has a definite retarding effect upon the growth of malignant cells, in cases that have had radiation we must wait longer periods to determine clinically whether a cure has been effected. He cited in this connection an instance in which after ten years secondary growths developed in a patient, and the histological structure corresponded exactly with the original tumor, sections from which he compared with sections from the secondary tumors.

In answer to Dr. Crile, he said that different types of individuals undoubtedly do resist in different degrees the invasion of malignant cells. As to the determination of malignancy the pathologist sees only groups of cells. He does not make diagnosis of malignancy. He can only say, "In a similar group of cells, I know that the ultimate result proved malignancy." In dealing with experimental tumors a transplant can be made and malignancy definitely determined. Obviously this cannot be done with patients, but is approximated whenever a complete removal of a tumor mass is impossible or has inadvertently not been accomplished. In this respect failures to cure may teach us more than success.

There is considerable evidence that cancer cells differ very little from normal cells. Normal liver cells grown in plasma, and cancer cells grown in plasma, grow in much the same manner. Liver cancer cells secrete bile; thyroid cancer cells produce thyroid substance. So far as has been determined there seems to be but a very fine shade of difference between the malignant and the normal cell; a difference which enables the malignant cell to live a parasitic existence at the expense of its host.

W. E. Lower moved a vote of thanks for the very able presentation of this very interesting subject. Carried.

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## EXPERIMENTAL MEDICINE SECTION

The ninetieth regular meeting of the Experimental Medicine Section was held Friday, November 10, 1916, at 8:00 P. M., at the Cleveland Medical Library.

### 1. Intravenous and Intra-arterial Insufflation of Oxygen; An Experimental Study, by Carl R. Steinke, M. D.

The first recorded intravenous insufflation of oxygen is by Nysten in 1811. He also injected other gases such as nitrogen, carbonic acid, hydrogen and air in small amounts without any ill effect. Gaertner in 1902 administered oxygen by insufflation, and claimed that the gas is so rapidly absorbed by the venous blood in the heart and branches of the pulmonary artery as to nullify any danger. Mariani was first to administer oxygen to a human being by intravenous infusion. Some relief was obtained. Death ensued soon after.

Twenty-six experiments on dogs form the basis of this paper. Oxygen was given in the large vein just below the knee joint. Special needles were used to avoid large bubbles of gas forming an embolus. Experiments then were performed to study the oxygen tolerance of the dogs. Illuminating gas was administered followed by oxygen—results unsatisfactory.

Five experiments were performed in which the dogs were suffocated by means of a rubber glove over the nose and mouth, and the administration of oxygen intravenously. In each instance the dog died of acute cardiac dilatation with collapse of the lungs. The following conclusions are drawn from this series of 26 experiments:

(1) Oxygen was insufflated two or three times into the same animal without any ill effect.

(2) Oxygen insufflation is not sufficient to overcome asphyxia from strangulation or illuminating gas, as it replaces only a part of the oxygen requirement.

(3) A considerable amount of oxygen given intravenously is taken up in some manner; not able to be determined.

(4) In asphyxia experiments, death was due to acute cardiac dilatation whether or not oxygen was given intravenously.

(5) Oxygen given about 15 c.c. per minute to a medium-sized dog may be continued for two hours. Quantities up to 50 c.c. per minute can be given for a few minutes only, without ill effect or death.

(6) Oxygen insufflation intravenously and intra-arterially is a physiological problem and should be amenable to solution.

## **2. Utilization of Dextrose in the Animal Body, by J. J. R. Macleod, M. D.**

A healthy person can take 500 gms. of dextrose without any appearing in the urine. However, if it does appear in the urine in small quantities, an increased amount taken in produces no proportionate increase in the urine. The point of value is the tolerance of dextrose and not the assimilation. If we should inject small quantities over a long period of time, we can accurately judge the tolerance value. It is not the amount but the velocity with which it is administered and excreted; 8.5 gms. of dextrose per kilo body weight per hour can be tolerated. Between .85 to 2 gms. it begins to escape into the urine and after a short period of time it reaches a constant level and remains so. After dextrose is administered it may (1) become oxidized, (2) become glycogen or (3) become fat. A good deal of dextrose is oxidized in a short time after ingestion. We will not deal with the change of dextrose into fats. Regarding the change of dextrose into glycogen, we may attack this problem in two ways: (1) see how much glycogen is deposited after injection or (2) by studying the blood entering and leaving a certain organ. By the first method the liver is shown to hold most glycogen and muscle the least. In the second method we studied the sugar content of inflow and outflow blood, *i. e.*, the blood in the portal vein, vena cava and iliac vein. If dextrose is given below the assimilation limit it gradually increases until it reaches a certain constant level or plateau and remains. With excessive amounts there is a distinct difference; most of it appears in the portal vein, next the vena cava and lastly the iliac veins.

It has been shown that alkali diminishes blood sugar. We observed the result on the plateau by giving alkali. Alkali may stimulate the glycolytic function or produce dextrose decomposition, or increase the oxidation. Lactic acid is a constant decomposition product of dextrose. If dextrose and alkali are given lactic acid mounts up. Does the liver retain any of the lactic acid or is it converted into glycogen? Lactic acid was unchanged in amount in the vena cava and portal vein; therefore the liver does not produce any change. Does alkali act on the sugar before or after the injection? The alkali merely produces changes in the sugar before the injection so that lactic acid can be easily produced. Lately we were able to produce lactic acid by injecting alkali without sugar. In this case the alkali evidently acts upon the blood sugar.

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## **CLINICAL AND PATHOLOGICAL SECTION**

The one hundred and nineteenth regular meeting of the Clinical and Pathological Section was held Friday, November 3, 1916, at the Cleveland Medical Library.

### **1. Report on the Complement Fixation Test for Gonorrhoea, by T. P. Shupe, M. D.**

In 1901 Bordet and Gengou discovered the phenomenon of complement becoming inactive when micro-organisms are mixed with their homologous antisera. It was not until 1906 when Mueller and Oppenheim first used this method for the detection of antibodies in the blood stream of patients



infected with the gonococcus. In 1911 Schwartz and McNeil established the fact that the gonococcus family was a heterogeneous one. Since that time several different strains of gonococci have been used in the preparation of antigen.

The fixation of complement in the gonococcus test is the result of the interaction of antigen and its own antibody. This test, however, is not specific, as one may be led to believe, since several facts step in which make it more difficult to perform than the Wassermann. Among these factors are: (1) Multiplicity of strains of the gonococcus; (2) the relative infrequency of bloodstream infection; (3) small amount of antibodies formed by the disease in an uncomplicated form. The report is based on a little over 1,000 tests. Two methods for measuring the reagents were used, namely, the metric and the drop method. The drop method was found to be by far the most satisfactory. The graduation of amboceptor must be watched carefully, as it will not allow as much variation as in the Wassermann.

Three different preparations of antigen were used: Parke, Davis & Co., Mulford & Co., Dr. Warden Fat Extract of the Gonococcus. The Parke Davis antigen was the most satisfactory. Each box of antigen must be titrated. An anti-sheep haemolytic system has been used throughout.

With the exception of the first 200 cases, the examinations have been performed on clinically cured cases, cases of arthritis, epididymitis and vulvo-vaginitis.

No case has been found positive when the patient had not been infected or received gonococcus vaccine. The test is generally negative in the fifth to the sixth week in uncomplicated cases. The antibodies may remain for five or six weeks after all organisms have disappeared and a negative test following a positive one in a supposedly cured case is good evidence that the patient is cured.

The test is of particular value in arthritis. It is about 100 per cent positive. In acute epididymitis after five weeks from the onset of the disease it is 100 per cent positive.

Chronic prostatitis, seminal vesiculitis and posterior urethritis give 80 per cent positive.

### Discussion

*W. E. Lower*—This is the hardest group of cases to diagnose. The old microscopic method of diagnosis is unsatisfactory. Since intracellular diplococci can be found in any normal urethra. After several negative tests I always pronounce the patient as cured; if the test is positive without a discharge there may be a focus somewhere in the body.

*Dr. Sanford*—This test has now been in existence long enough to judge of its value. It is much better than the Wassermann, since it never becomes positive unless another infection sets in.

### 2. Report of Two Cases of Transplantation of Ureters, by Wm. E. Lower, M. D.

There are three anatomical points used in the transplantation of ureters: (1) Skin in loin, (2) intestine, either sigmoid or rectum, (3) bladder at some other point. The first is unsatisfactory, since a urinal of some kind must be constantly carried. When the entire bladder is destroyed by tumor growth or by exstrophy, the transplantation into the sigmoid or rectum is the best. The danger of infection in transplantation into the rectum is insignificant. Indications for transplantation are anatomical defects, exstrophy, neoplasms or growths of the urinary bladder, surgical accidents in which the ureter is cut. In the latter case we usually transplant into some other portion of the bladder.

The Moynihan operation, in which the base of the bladder with both ureters is transplanted, is not very satisfactory. The Coffey operation is by far the best. One ureter is transplanted at a time. The ureter about

2 cm. in length is imbedded in the musculature of the intestine; the orifice then enters through the mucosa. Thus a valve-like orifice similar to the one in the bladder is produced.

Dr. Lower then presented lantern slides of two cases, which resulted favorably. The first case of exstrophy of the bladder was in a boy 9 years of age; both ureters were transplanted at separate operations. The bladder mucosa which was exposed was skin grafted. The second case, of carcinoma of the bladder. Both ureters transplanted, and finally a complete cystectomy was done. Patient is very comfortable. Bowels moving every three or four hours.

### **3. Some Clinical Notes on Hydronephrosis, by F. C. Herrick, M. D.**

Uronephrosis is the preferable term for hydronephrosis, since the distended renal pelvis contains urine. Renal pelves show a very great normal variation in capacity as well as form. Capacity alone cannot be used as a criterion. Therefore we must draw a distinction between capacity of the pelvis and one which is clinically causing trouble. A large pelvis without clinical symptoms would not be considered as pathologic. Generally speaking, a capacity above 15 c.c. will be found pathologic. It is more important to discover the smaller uronephroses than the larger. They often cause marked symptoms over a long period of time. In these cases an early diagnosis and operation may result in saving a kidney by correction of a ptosis, severing of an accessory vessel or band of adhesions.

This paper is based upon a series of 18 cases, 7 of which were traumatic in origin. Trauma plays a very important part in the causation of uronephrosis, due to variation in the degree of lobulation and the persistence of the interlobular framework which attaches the kidney to Gerota's capsule and blends with the surrounding fascia and ligaments. A single trauma may completely tear these attachments, and render the kidney more movable. A subsequent kinking of the ureter over a band or vessel frequently results.

Dr. Herrick then cited the histories of several cases, together with lantern slides, showing the variations in size and shape of renal pelves.

A very careful history must be taken in any case of suspected uronephrosis. The symptoms must be accurately described by the patient; secondly, they must be properly drawn out and correlated by the physician. By a hasty history and examination the physician fails in the case in hand and hinders the development of his own perception. Pain usually coming on in the form of colic is a very common symptom, together with polyuria and hematuria. On examination, tenderness over kidney is a most constant sign. Pyelography reveals the size and shape of the pelvis. Cystoscopic examination and catheterization of the ureters is also of great value. Nephrectomy is the most plausible treatment. Pain may recur following plastic operations.

### **4. Diseases of Colliculus Seminalis, by A. Strauss, M. D.**

There are a few clear statements of etiology and pathological anatomy of the colliculus seminalis. In 1886 Oberlaender first mentioned the relation of chronic posterior urethritis and diseased colliculus to nervous affections. Since then many observers have associated pollutions, prostaticorrhoea, spermatorrhoea and impotence with the diseases of the colliculus. The importance of gonorrhoea in the etiology of colliculus is recognized by everyone, but some emphasize it more than others. Other conditions may exist in this region, such as ulcerations, polyps, cysts or epithelial growths.

Some of the commoner symptoms of colliculitis are a burning sensation on urination, which may radiate down the inner surfaces of the thighs, vague pain over the rami pubes or perineum, radiating into the scrotum. Dr. Strauss then presented case histories and reported 21 cases.



Of these 21 cases 4 were masturbators and had pollutions; these showed some improvement. The remaining 17 cases with pathological conditions of the colliculus or supramontane portion of the prostatic urethra, 11 have been healed for periods of two to eight months; 4 were improved; 2 not improved; 15 were single; 9 gave a history of gonorrhoea. Although in this series congested hypertrophied colliculus has been seen in every case, none has complained of impotence.

## OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SECTION

The eighty-sixth regular meeting of the Ophthalmological and Oto-Laryngological Section was called to order at 8:30 p. m., October 27, 1916, at the Medical Library, the chairman, Dr. Wm. B. Chamberlin, in the chair.

The minutes of the last meeting were read and approved.

Dr Chamberlin presented a woman on whom, several months ago, he had done the intranasal operation on the ear sac. The patient had been previously treated without result by the usual methods short of extirpation of the sac. The wound is now completely healed; no granulations around the opening intranasally; patient says she had no trouble with tearing or infection since the operation. She also states that only very occasionally has she ever forced air through the duct on blowing the nose. Dr. Chamberlin felt this operation was preferable to the extirpation of the sac as it left no scar on the face which at this point is very disfiguring. Dr. Lauder stated that the sac extirpation seldom left a scar that was noticeable, but was pleased to see the excellent result obtained by this method.

Dr. W. H. Tuckerman presented twin girls, 22 years old, with slightly bifid uvula and with both anterior and posterior pillars and velum intact. Their nasopharynges appeared exceptionally deep and they were unable to completely close off the nasopharynx from the throat by muscular effort. From their speech one would expect to find a fairly extensive cleft plat. There is no history of diphtheria, no evidence of paralysis of the palate, no history of regurgitation. The condition is evidently congenital, but the defect in the throat appears so slight that one would hardly expect the marked cleft palate speech.

Dr. Ingersoll thought there was evidence of congenital absence of part of the musculature of the palate which accounted for the defect.

**Program: 1. Presentation of Patient with Verruca of the Left Eyelid, by L. K. Baker.**

Dr. L. K. Baker showed a patient with extensive verucca of the left upper eyelid. The whole length of the margin of the lid was studded by pin-point size warts giving the free margin a velvety appearance. There were also several large warts distributed along the lashes. Dr. Baker had asked Dr. LeFevre to treat the condition. Dr. LeFevre stated that he intended using fulguration rather than X-ray, believing it would not have as deleterious effect on the hair follicles. Dr. Lauder said he had very good results with fuming nitric acid applied by a glass rod drawn to a fine point. He first had tried using a very fine pointed wood applicator, but found that the action of the nitric acid on the wood destroyed its strength to such a degree as to make it ineffective. The condition was discussed also by Dr. Chamberlin.

**2. Lip Reading for the Hard of Hearing Adult, by Miss Louise Howell.**

Miss Louise Howell's paper was excellent and well received. Discussed by Drs. Ingersoll, Chamberlin and Lauder. Dr. Chamberlin said he wished to especially emphasize the point brought out by the essayist that those who were hard of hearing with no fair prospect of marked improvement by treatment should take up the question of lip reading early, as there is no class

of people more apt to become morose or suspicious than the deaf, and who on account of their deafness are more of a trial to their friends. Lip reading puts those people back into comfortable relationship to their friends.

Dr. Lauder called attention to the fact that lip reading required very careful observation and a careful refraction of the eye should not be overlooked as a preliminary to studying it.

### **3. Experience in Post-graduate Work in the Harvard Medical School, by C. C. Pitkin.**

Dr. Pitkin's paper gave a very comprehensive review of the present post-graduate work in Boston. He stated that operators are partial to the LaForce adenatome for the removal of adenoids, and that all tonsils are removed in the sitting posture; that the external operation on the frontal sinuses is quite common; that they are advocating the removal of tonsils at the time of peritonsillar abscess, and claim no unsuccessful results. Some very interesting work is being done on vasomotor rhinitis, isolating the individual pollens that are the exciting factors in the individual cases and immunizing the patient against this pollen.

Dr. Pitkin stated that the most important thing regarding the post-graduate work was that in the course as given, time for the entire day could be profitably employed during one's three months' stay.

### **4. Report of a Case of Rhinoscleroma, by Ira A. Tripp.**

Dr. Tripp showed photographs of his case of ulcerative rhinoscleroma and gave a resumé of literature on this type of rhinoscleroma. Dr. Chamberlin in discussion said that the description and the photograph were so much at variance to the ordinary type of rhinoscleroma that one would have some doubts as to whether some other condition were not the actual cause and asked if lues had been excluded. Dr. Tripp stated that the Wassermann was negative.

### **5. Ocular Disease and the Teeth, by Leo Wolfenstein.**

Dr. Wolfenstein gave the histories of several patients in which the uveitis was quite definitely due to ulcerated roots of teeth. In some of these cases the teeth in question were giving the patient no subjective symptoms to point to them as the source of trouble, nor could any tenderness be elicited on pressure or on pounding upon the teeth. The paper was freely discussed.

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## **COUNCIL MEETING**

At a meeting of the Council of the Academy of Medicine, held Tuesday, November 14, 1916, at the University Club, the following members were present: The president, Dr. Bruner, in the chair; Doctors Geib, Skeel, Updegraff, Moorehouse, Follansbee, Bernstein, Houck, Selzer, Weir, Dexter, Sanford, Thomas, and J. E. Tuckerman, and by invitation Mr. Weiss of the Internal Revenue Office.

The minutes of the last meeting were read and approved.

On motion the appointment of a chairman to the legislative committee was postponed until after the annual meeting.

On motion the following were elected to active membership in the Academy:

Wm. E. Dwyer, M. D.

Arthur A. Eisenberg, M. D.

Ignatius W. Matsuka, M. D.

P. J. Opperman, M. D.

Adam E. Szczytowski, M. D.



Dr. Moorehouse reported the following applicants for active membership:

Oscar E. Townsend, M. D.

E. A. Wakefield, M. D.

Josephine M. Danforth, M. D.

On motion the above names were ordered published.

Dr. Dexter reported that the programs for December and January were filled, and requested an expression by the Council as to whether they wished to hear Mr. Blossom upon the subject of Birth Control at the February meeting. Dr. Weir moved that the February program be so filled. Second by Dr. J. J. Thomas. After discussion the motion was put and carried.

Dr. Sanford in reporting for the Civic Committee asked that Mr. Weiss be heard first upon the question of the problem of drug habitues.

Mr. Weiss gave an interesting summary of the problem as it presents itself to the Internal Revenue Office through enforcing the Harrison narcotic law.

On motion the Council thanked Mr. Weiss for his presentation of the subject.

Dr. Sanford then reported for the Civic Committee a proposed questionnaire upon fees in general practice. He asked an expression by the Council as to whether such a questionnaire seemed worth while.

On motion by Dr. Thomas, seconded by Dr. Updegraff, the Council expressed its opinion that such a questionnaire was desirable.

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**Symposium on the Medical Profession.**—The symposia which have previously appeared in the pages of the *Medical Review of Reviews*—the symposium on euthanasia, symposium on sterilization of the unfit, symposium on drugs, and symposium on obstetrical abnormalities—were features of interest and value, but the symposium which is to appear in our January issue will be unique. It is a symposium on the medical profession, with contributions from distinguished laymen. What's the matter with the doctor? is the question that was propounded, and replies were received from such men of affairs as Andrew Carnegie, John Wanamaker, Nathan Straus, Theodore N. Vail; from such authors as Jerome K. Jerome, Israel Zangwill, the Princess Troubetzkoy, William Dean Howells, Gertrude Atherton, Robert W. Chambers, Alice Hegan Rice, Margaret Deland, Theodore Dreiser, George W. Cable, Julian Hawthorne, Ellis Parker Butler, Bruno Lessing, Booth Tarkington, George Kennan, Ernest Thompson Seton; from such poets as Edith M. Thomas, Bliss Carman, Rose Hartwick Thorpe, Wallace Irwin, Witter Bynner, John Kendrick Bangs (these last two contributions being in verse); from such folks of the stage as Minnie Maddern Fiske, Wilton Lackaye, James K. Hackett, William C. de Mille, Charles Rann Kennedy, Eugene Walter, John Philip Sousa; from such educators as Andrew D. White, David Starr Jordan, E. Benjamin Andrews, the late Booker T. Washington, Charles F. Thwing; from such inventors as Nikola Tesla and Hudson Maxim; and from editors, politicians, cartoonists, theologians, *et al.*, throughout the world.

Many of these contributions are literary gems from world-famed masters of the pen, and we believe they will be quoted for years to come.

We propose sending out 50,000 copies of this January edition, thus reaching practically half of the medical profession in America.

## BOOK REVIEWS

**Constipation, Obstipation and Intestinal Stasis.** By Samuel Goodwin Gant, M. D., LL. D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum and Anus, in the New York Post-graduate Medical School and Hospital. Second edition enlarged. Octavo of 584 pages, with 258 illustrations. Philadelphia and London, W. B. Saunders Company, 1916. Cloth \$6.00 net.

This work appeals alike to the internist and to the surgeon as it contains chapters covering those cases of constipation which are the province of the medical man and those conditions, mechanical and inflammatory in origin, which demand surgical treatment. The first two chapters deal with anatomy and physiology. The far-reaching complications of constipation in its chronic form make it a disease worthy the study of all. This volume contains a full discussion of the drug treatment of constipation and, what is even more important, of the various mechanical, hygienic, and dietetic means of relieving the condition. There are chapters on the various kinds of mechanical intestinal obstruction and their full surgical treatment. Pericolicitis, Jackson's Membrane, Diverticulitis, and Peridiverticulitis are all considered. Any criticism of the work must be a favorable one. It is complete, modern, and from the reviewer's medical viewpoint, it is the record of the work of a master in his field.

H. C. K.

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**Blood-Pressure, from the Clinical Standpoint.** By Francis Ashley Faught, M. D., formerly director of the Laboratory of Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Second edition, thoroughly revised. Octavo of 478 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1916. Price \$3.25 net.

The purpose of this book, as stated by the author in the preface to the second edition, is "to reduce a very large and complicated subject to a practical working basis, one which may be applied to everyday conditions." The work opens with a short chapter on the physiology of the circulation. The principles on which is based the sphygmomanometer are discussed. The various types of instruments are described and the technic for the clinical estimation of the blood-pressure. Then follow chapters on blood-pressure in the various diseases in the domains of medicine and surgery and in obstetrics. In the last mentioned field the author has included all the recent work on the relation of blood-pressure to the diagnosis of the toxemias of pregnancy.

Occasional exceptions may be taken. In his discussion of arteriosclerosis the author states that the thickened artery is a factor of safety rather than a source of danger and that the only real danger is the accompanying blood-pressure elevation. There are surely cases of arterial disease without hypertension which suffer as a result of the pathology of their circulation. There is still much difference of opinion regarding the relation of arterial and renal disease and high blood-pressure. The author divides the conditions entirely. It is little disappointing to one interested in the problem, but may be the best course for a work with the purpose of this one.

The facts presented are thoroughly sound and the book is well written and will fill a place in presenting to many the facts on which rest a clinical test which is becoming popular with the great mass of practitioners.

H. C. K.

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**The Medical Clinics of Chicago.** November, 1916, Volume 2, W. B. Saunder Company, Philadelphia and London. Published bi-monthly (six numbers a year). Price per year, \$8.00.

It is surely true that these Clinics improve with each number. The general character of the clinics and the method of their presentation have both improved. This number contains an excellent discussion of the modern



medical treatment of chronic ulcer of the stomach and duodenum by Dr. Walter W. Hamburger, of Cook County Hospital. Dr. Isaac A. Abt writes on Acute Anterior Poliomyelitis, covering the whole subject from the historical aspects to the treatment. Dr. Ralph C. Hamill presents the analysis of three cases of this same disease, two of the cases being adults. He differentiates this condition from other acute paralytic conditions. One cannot refrain from expressing his conviction that these clinics, in their unique and readable form will bring the advances of medical science to the doors of many men who have neither the time nor inclination to glean them from the great mass of current medical literature.

H. C. K.

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**The Practical Medicine Series, Volume V, Pediatrics.** Edited by Isaac A. Abt, M. D., with the collaboration of A. Levinson, M. D., and **Orthopedic Surgery.** Edited by John Didlon A. M., M. D., with the collaboration of Charles A. Parker, M. D. Series 1916. The Year Book Publishers, Chicago.

The reviewer has commented favorably on some previous numbers of this Year Book. Its division into volumes of small size each covering a branch of medicine so that one interested in a limited field may purchase only what interests has certain advantages and certain disadvantages. We cannot become too much specialists for the human body does not know anything about specialities.

In speaking of this volume the writer admits a lack of knowledge regarding the very special field of orthopedic surgery. In reading quite carefully the section devoted to pediatrics there seems to be a lack of evidence of editorship and the review of the literature of the past year does not seem to be as complete as usual.

H. C. K.

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**Diseases of the Skin.** By Richard L. Sutton, M. D., Professor of Diseases of the Skin, University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Member American Dermatological Association, etc. Six hundred and Ninety-three illustrations, and eight colored plates. C. V. Mosby Company, St Louis, 1916 Price, \$6.50.

Dr. Sutton is recognized throughout the United States, as one might say, throughout the world, as a very original and practical man, and his text book lives up to his reputation. It is very carefully written, goes into details, and is profusely illustrated, not only with pictures of cases, but also with photo-micrographs of skin diseases.

Above all this book is to be valued because it gives Dr. Sutton's own ideas, e. g., one finds that he uses salvarsan exclusively in intra-muscular injections.

The book is to be highly recommended for the use of the practitioner and the student.

H. N. C.

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**Skin Cancer.** By Henry H. Hazen, A. B., M. D., Professor of Dermatology in the Medical Department of Georgetown University; Professor of Dermatology in the Medical Department of Howard University; Sometime Assistant in Dermatology in the Johns Hopkins University; Member of the American Dermatological Association. With Ninety-seven Text Illustrations and one Colored Frontispiece. C. V. Mosby Company, St. Louis, 1916. Price, \$4.00.

To a person desiring a smaller volume on Diseases of the Skin and one that does not go so much into technical details, this little volume of Dr. Hazen's is to be highly recommended.

Dr. Hazen is recognized as one of our best Dermatologists and is especially well known for his scientific work in Histo-pathology of the skin.

Some of the illustrations are not quite as good as they might be, and, of course there are not as many as in the larger volume of Sutton's, but for the student or general practitioner desiring a small general reference book on this subject we can recommend it as an entirely suitable volume.

H. N. C.

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## ACKNOWLEDGMENTS

**The Medical Clinics of Chicago, November, 1916.** Volume 2, No. 2. W. B. Saunders Company, Philadelphia and London. Published Bi-Monthly (Six Numbers a Year). Price per Year, \$8.00.

**Blood-Pressure, From the Clinical Standpoint.** By Francis Ashley Faught, M. D., Formerly Director of the Laboratory of Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Second Edition, thoroughly revised. Octavo of 478 pages, illustrated. W. B. Saunders Company, Philadelphia and London, 1916. Price, \$3.25 net.

**Constipation, Obstipation and Intestinal Stasis.** By Samuel Goodwin Gant, M. D., LL. D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum and Anus, in the New York Postgraduate Medical School and Hospital. Second edition, enlarged. Octavo of 584 pages, with 258 illustrations. W. B. Saunders Company, Philadelphia and London, 1916. Cloth, \$6.00 net.

**The Medical Record Visiting List for 1917.** Physician's Diary. For 60 patients a week, with or without dates; handsomely selected red or black, morocco binding. William Wood & Co., New York. Price, \$1.50. These visiting lists are also for smaller and larger number of patients.

**A Practical Medical Dictionary.** Of Words Used in Medicine, with their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance and Other Special Terms; Anatomical Tables of the Titles in General Use, and Those Sanctioned by the Basle Anatomical Convention; Pharmaceutical Preparations, Officials of the U. S. and British Pharmacopoeias and Contained in the National Formulary; Chemical and Therapeutical Information as to Mineral Springs of America and Europe, and Comprehensive Lists of Synonyms. By Thomas Lathrop Stedman, A. M., M. D., Editor of the "Twentieth Century Practice of Medicine," of the "Reference Handbook of the Medical Sciences," and of the "Medical Record." Fourth revised edition. Illustrated. William Wood & Company, New York, 1916. Price, \$5.00 net.

**A Textbook of Histology.** By Frederick R. Bailey, A. M., M. D. Fifth revised edition. Profusely illustrated. William Wood & Company, New York, 1916. Price, \$3.75 net.

**The Practice of Urology.** A Surgical Treatise on Genito-Urinary Diseases, Including Syphilis. By Charles H. Chetwood, M. D., LL. D., F. A. C. S., Professor of Genito-Urinary Surgery, New York Polyclinic; Visiting Surgeon to Bellevue Hospital; Special Consulting Surgeon to Knickerbocker Hospital, St. John's Hospital (Long Island City), Nassau Hospital (Mineola), White Plains Hospital; Member American Association of Genito-Urinary Surgeons, American Urological Association; L'Association Internationale D'Urologie, etc. Second edition. Profusely illustrated. William Wood & Company, New York, 1916. Price, \$5.50 net.

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## MEDICAL NEWS

**Dr. F. M. Casto**, Cleveland, was elected President of the Ohio State Dental Society at its fifty-first annual meeting, held at Dayton, Ohio, December 5th, 6th and 7th, 1916. There were about one thousand dentists in attendance. Cleveland sent a delegation of seventy-five. The next annual meeting will be held in Cleveland, December 4th, 5th and 6th, 1917.

**A New President.**—In a handsome folder just received the directors of the Frank S. Betz Company, office and operating room outfitters, announce the election of Mr. Louis R. Curtis as the president of the company. Mr. Frank S. Betz is the chairman of the Board of Directors of this popular and enterprising organization.

**Central States Orthopedic Club.**—Program of the 1916 meeting. Cleveland-Cincinnati, December 27-28, 1916. Organized in Chicago, December 19, 1912.

### *Previous Meetings*

Chicago, December, 1912; St. Louis, March, 1913; Lincoln-Omaha, November, 1913; Detroit, December, 1914; Minneapolis-St. Paul-Rochester, October, 1915.

### *Officers*

Dr. Emil Geist, President, Minneapolis.  
Dr. W. G. Stern, Vice-President, Cleveland.  
Dr. H. W. Orr, Secretary, 1010 Terminal Bldg., Lincoln, Neb.

### *Executive Committee*

Dr. John L. Porter, Chicago; Dr. Nathaniel Allison, St. Louis; Dr. A. J. Gillette, St. Paul.

### *Arrangements Committee*

Dr. W. G. Stern, Cleveland; Dr. A. H. Freiberg, Cincinnati,

## Program

### CLEVELAND

Wednesday, December 27, 1916

All members and guests arriving at Union Depot leave baggage in check room and take street car at 6:15 Central time (7:15 Eastern time) for Hollenden Hotel

(All Figures Eastern Time)

7:30 to 8:30—Club Breakfast, Hollenden Hotel.

8:30—Street car to New Mt. Sinai Hospital.

9:00 to 11:00—Clinics by Miss Rotch, Drs. Harrison, Bland, Dower, and Stern, of Cleveland; Steinfeld, of Columbus, and Chollett, of Toledo.

11:30 to 1:30—Car to Lakeside Hospital. Clinics by Drs. Morrill, Bauman and Crile. Report on "The Cleveland Cripple Survey."

1:30 to 2:30—Luncheon at Lakeside Hospital.

2:30—Car to St. Luke's Hospital. Clinics by Drs. Kelly, Teter, Skeel, Stepp, Spurney, and Stern.

5:00—Car to Union Depot.

5:30—Special Pullman to Elyria (same car later to Cincinnati).

(Change to Central Time)

- 5:15—Elyria. Visit Gates Hospital for Crippled Children. Presentation of Patients by Drs. Hull, of Elyria, and Stern, of Cleveland.
- 6:30—Dinner at the Andwur Hotel.
- 8:10—Leave for Cincinnati.

# CINCINNATI

Thursday, December 28, 1916

(All Figures are for Central Time)

- 7:45 A. M.—Arrive from Cleveland.
- 8:00 to 9:00—Breakfast at the Hotel Sinton.
- 9:15—Car to Cincinnati General Hospital.  
 Upon arrival at the Hospital there will be an opportunity to ask for railroad reservations for the return trip, which will be attended to by the local committee.
- 10:00 to 12:30—Demonstrations by staff physicians and surgeons other than outhopedic.
- 12:30—Luncheon in the students' lunch room of the General Hospital.
- 1:30—Tour of the hospital.
- 2:30—Orthopedic Ward. Points in plaster, technique, gymnasium methods in the treatment of scoliosis.
- 3:15—Lecture Theatre. Demonstrations by members of the orthopedic staff, Drs. Freiberg, Carrothers, Maddox and Cofield.
- 5:00—Annual meeting of the Central States Orthopedic Club. (Executive session.)
- 7:00—Dinner at the Hotel Sinton.

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**Passed by the National Board of Medical Examiners.**—The National Board of Medical Examiners held its first examination from October 16 to 21, in Washington, D. C.

There were thirty-two applicants from seventeen States, representing twenty-four medical schools, and of these sixteen were accepted as having the necessary preliminary and medical qualifications, ten of whom took the examination.

The following men passed:

- Dr. Harry Sidney Newcomer, Johns Hopkins University.
- Dr. William White Southard, Johns Hopkins University.
- Dr. Orlow Chapin Snyder, University of Michigan.
- Dr. Thomas Arthur Johnson, Rush Medical School.
- Dr. Hjorleifur T. Kristjanson, Rush Medical School.

The second examination will be held in Washington, D. C., June, 1917. Further information may be had by applying to Dr. J. S. Rodman, Secretary, 2106 Walnut street, Philadelphia, Pa.

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**American Congress on Internal Medicine.**—The first scientific session of the American Congress on Internal Medicine will take place in New York City, the Hotel Astor, on December 28th and 29th, 1916, following the meeting of the American Association for the Advancement of Science.

The following provisional program will give you an idea of the manner in which the scientific work is to be conducted. There is to be a "Referat" and two "Co-Referate," according to the system prevailing at the German Congress on Internal Medicine. The referee as well as the co-referees are elected by the officers and the Council of the Congress. The referee on this



occasion will be the renowned Sajous, of Philadelphia, the co-referees Drs. Daland and Dercum, from the same city. The Symposium on Duodenal Ulcer will bring out many new points anent the still mooted question of the etiology of this pathological condition.

The primary purpose of the Congress is to corral the men of our country who are devoting themselves to research and clinical work along the lines of internal medicine, so that such internists may attain prominence and financial remuneration equal to that enjoyed by the members of the profession who devote themselves to surgical work.

### Program

*Thursday, December 28, 1916*

10:30 A. M. Calling Meeting to Order by the President, Reynold Webb Wilcox, M. D., LL. D., D. C. L.

Report of Officers.

Report of Committees.

New Business.

1 P. M. Collation for Members of the Congress.

2 P. M. Subject Selected by the Council of the Congress.

"The Ductless Glands in Cardio-Vascular Diseases and Dementia Precox."

Referee: Charles E. de M. Sajous, M. D., LL., Sc. D., of Philadelphia.

Co-Referees: For the Cardio-Vascular Diseases—Judson Daland, A. M., M. D., of Philadelphia.

For Dementia Precox—

Francis X. Dercum, A. M., M. D., of Philadelphia.

Discussion to be opened by—

Harlow Brooks, A. M., M. D., of New York.

Smith Ely Jelliffe, Ph. D., M. D., of New York.

William A. White, A. M., M. D., of Washington, D. C.

7:30 P. M. Banquet.

*Friday, December 29, 1916*

10:30 A. M. Meeting of the Council of the American College of Physicians, Inc.

2 P. M. Symposium on Duodenal Ulcer.

(1) The Diagnosis of Duodenal Ulcer—John B. Deaver, M. D., of Philadelphia.

(2) The Prognosis of Duodenal Ulcer—Max Einhorn, M. D., of New York.

(3) The Possible Dependence of Gastro-Duodenal Ulcer in Man Upon a Disturbance of Internal Secretion—Gedide A. Friedman, M. D., of New York.

(4) Venous Stasis and Colloidal Diffusion as Etiological Factors of Gastro-Duodenal Ulcer—Fenton B. Turck, M. D., of New York.

8:30 P. M. Convocation of the American College of Physicians, Inc.

**Memorandum in Support of the 1917 Budget Estimates of the Department of Health, New York City, for Health Supervision of School Children.**—The 1917 budget estimate of the Bureau of Child Hygiene of the Health Department calls for \$75 240 more than last year for school health work. The additional money is needed for enlarging the staff of medical inspectors and nurses so as to reduce the present proportion in the number of children to physician and nurse to a better working basis. Six dental hygienists are also asked for, who are to be engaged in prophylactic work and giving surface treatment, thereby adding considerably to the preventive as well as curative services at present available in the schools and clinics. The following table shows the present and proposed staffs:

	1916	1917	Increase
Medical Inspectors .....	100	125	25
School Nurses .....	200	252	52
Dental Hygienists .....		6	6

### Health Conditions Among Children are Too Serious to be Neglected

The 1915 reports on medical inspection show that out of over 925,000 pupils enrolled in the public and parochial schools, only 305,665 or 33 per cent were examined for physical defects, leaving a large percentage among the two-thirds of the enrolled children not examined possibly suffering from various physical defects, which in their very nature are a handicap to school progress. Of the children examined, 222,072 or 72.6 per cent had physical defects requiring treatment as follows: Defective vision, 14.5 per cent; defective nasal breathing, 9.5 per cent; hypertrophied tonsils, 11.2 per cent; defective nutrition, 5.3 per cent; defective teeth, 63.9 per cent; and to a lesser extent there were cases of cardiac and pulmonary diseases, defective hearing and orthopedic defects.

The large number to be examined and the small staff of physicians available made it impossible at times to give each child a complete physical examination, with the result that 129,125 or 42.2 per cent of the children examined did not have their vision tested.

The large percentage of untermiated cases under treatment or investigation proves the insufficiency of the staff employed for this vast and important task. As much of the curative work done by private physicians or at clinics is due largely to the follow-up efforts of the school nurses, this phase of the health supervision cannot be conducted as effectively as desired unless an adequate staff of nurses is provided.

Both these handicaps in the results of the year's work are due to the large number of pupils assigned to each physician and nurse, being respectively 9,200 and 4,800, whereas the ratio should never exceed 3,000 in either case. The appointment of the additional physicians and nurses asked for will reduce but slightly this ratio.

### Ratio of Pupils to Physicians and Nurses

	1916	1917
Pupils to physicians.....	9 200	7,400
Pupils to nurse.....	4,800	3,666

Public safety demands the quick recognition and exclusion from school of all cases of infectious disease. The health and efficiency of each individual child demand the discovery of any physical defects which may have a deleterious effect, not only on his well-being but also on his educational progress. Without the proper number of physicians and nurses indicated above, neither of these important requisites can be observed. The welfare of the community as well as the interests of our educational and health systems are sufficient grounds on which to urge the granting of the increased appropriation asked by the Health Department.

### More Medical Inspectors Needed

Under the Education Law of the State of New York the employment of physicians to examine each public school child *each year* is made mandatory outside of New York City. Under the present system in New York City each child is examined but *once in three years* during its school life. The cities of Boston and Philadelphia where social and economic conditions affecting school children are analagous to those in New York, are governed by the laws of the States of Massachusetts and Pennsylvania, respectively, which make annual examinations of school children mandatory. If we cannot insure the annual examination of each child attending school in New York City and the effective following up of each case found needing medi-



cal attention, the city should at least provide for the thorough examination and following up of a larger percentage of children than it is at present possible to reach.

### **Additional Nurses Necessary**

The school nurse plays a highly important part in our school health supervision. Her duties are many and extend beyond the school building. The efforts of the medical inspectors would be of little avail without the following up of the cases by the nurses. Upon the school nurse devolves the highly important duty of examining the children for contagious diseases. This work consumes a great part of the nurse's time and is in its very nature a very exacting procedure. Adding to this the follow-up work with its many home visits, taking children to dispensaries for treatment, and the numerous cases requiring emergency treatment which turn up daily in every school, it will readily be seen that the present staff of nurses is insufficient and that the individual nurse is overtaxed.

The number of children cured of serious physical defects thus depends largely on the number of parents receiving the advice and aid of the school nurse. This activity is necessarily limited by reason of the small number of nurses assigned to this work, with the result that large numbers of cases are never reached, often with very serious consequences.

### **Dental Hygienists for Preventive Work**

For the first time in the existence of the system of medical inspection in New York City, funds are requested for the employment of dental hygienists. The experience of Bridgeport, Connecticut, and other cities employing dental hygienists has demonstrated the great value of their services as well as the considerable economy effected thereby. Instruction in the care of the teeth, which at present is an added burden to the many other duties of the school nurses, and the cleaning of children's teeth, which is seldom done in the clinics, can be done expeditiously and satisfactorily by dental hygienists, especially trained in these branches of dental practice. The large percentage (63.9 per cent) of children with defective teeth in the public schools and also the fact that more than half of these children are probably too poor to patronize private dentists, offer the most convincing proofs of the need for such prophylactic treatment being made easily and continuously available to the children in our schools.

Respectfully submitted,

Bureau of Welfare of School Children,  
CHARLES C. BURLINGHAM, Chairman.

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### **DEATHS**

Joel V. Sampsell, M. D., age 66 years; Jefferson Medical School, 1877; practiced in Elyria nearly 40 years; died at his home October 20, 1916, after an illness of several months, due to heart disease. Dr. Sampsell was one of the pioneer physicians of Lorain county. He is survived by his wife and one sister.

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Frank S. Clark, M. D., aged 52 years; Western Reserve Medical School, 1890; Chief of Staff at St. Ann's Infant Asylum and Maternity Hospital, died at his residence in Cleveland, November 23, 1916. Dr. Clark was considered one of the leading obstetricians of the city. He had been connected with St. Ann's Hospital twenty years. He was a lecturer on obstetrics at Charity Hospital; a member of the faculty of the Medical School of the Western Reserve University, and a member of the Cleveland Academy of Medicine. He is survived by his wife and mother.

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**RECENT ADDITIONS TO THE CLEVELAND MEDICAL LIBRARY.**

Leonard, Ralph D. & George, Arial: The Roentgen Diagnosis of Surgical Lesions of the Gastro-Intestinal Tract, Boston Colonial Medical Press. 1915, 280 pp.

Elsberg, Charles A.: Diagnosis and Treatment of Surgical Diseases of the Spinal Cord and its Membranes. Philadelphia. W. B. Saunders Co., 1916, 330 pp.

Davison, Charles & Smith, Franklin D.: Autoplastic Bone Surgery. Philadelphia. Lea & Febiger. 369 pp.

Speed, Kellogg: A Text-Book of Fractures and Dislocations, with Special Reference to their Pathology, Diagnosis and Treatment. Philadelphia. Lea & Febiger. 1916. 888 pp.

Lane, Sir W. Arbuthnot: The Operative Treatment of Chronic Intestinal Stasis. (3rd edition) London. Jas. Nisbet & Co. 1915. 201 pp.

Binnie, John Fairbairn: Manual of Operative Surgery. (7th edition) Philadelphia. P. Blakiston's Son & Co. 1916. 1363 pp.

Mackenzie, Sir James: Principles of Diagnosis and Treatment in Heart Affections. London. Oxford University Press, 1916. 264 pp.

Mackenzie, Sir James: Diseases of the Heart. (3rd edition). London. Oxford University Press. 1914. 502 pp.

Roseneau, Milton, J.: Preventive Medicine and Hygiene. (2nd edition.) New York. D. Appleton & Co. 1916. 1285 pp.

Hewlett, A. W.: Functional Pathology of Internal Diseases, (In Monographic Medicine. Vol. 1.) New York. D. Appleton & Co., 1916. 686 pp.

Joslin, Elliott P.: The Treatment of Diabetes Mellitus, with Observations Based upon One Thousand Cases. Philadelphia. Lea & Febiger. 1916. 440 pp.

Barker, L. F.: Clinical Diagnosis of Internal Diseases; the Blood, Digestive System and Urology. (In Monographic Medicine, Vol. 3.) New York. D. Appleton & Co. 1916. 1063 pp.

Barker, L. F.: Clinical Diagnosis of Internal Diseases; General Diagnosis, Infections, Respiratory and Circulatory Systems. (In Monographic Medicine. Vol 2.) New York. D. Appleton & Co. 1916. 978 pp.

Barker, L. F.: Clinical Diagnosis of Internal Diseases; Muscles, Bones, and Joints, Nervous System, Metabolism. (In Monographic Medicine. Vol. 4.) New York. D. Appleton & Co. 1916. 1039 pp.

Fussell, M. H.: Differential Diagnosis of Internal Diseases. (In Monographic Medicine, Vol. 5.) New York. D. Appleton & Co. 1916. 880 pp.

Elsner, H. L.: Prognosis of Internal Diseases. (In Monographic Medicine. Vol. 6.) New York. D. Appleton & Co. 1916. 1276 pp.

Dixon, Walter E.: A Manual of Pharmacology. (4th edition.) London. E. Arnold. 1915. 467 pp.

Ferguson, R. H.: The Non-Surgical Treatment of Intestinal Stasis and Constipation. New York. Squibb & Sons. 1916. 109 pp.

MacCallum, W. G.: A Text-Book of Pathology. Philadelphia. W. B. Saunders Co. 1916. 1085 pp.



Hiss, Philip Hanson & Zinsser, Hans.: A Text-Book of Bacteriology. A Practical Treatise for Students and Practitioners of Medicine. (3rd edition.) New York. D. Appleton & Co. 1916. 769 pp.

The Russell Sage Institute of Pathology: Clinical Calorimetry. (Vol. 1.) Papers 1-17. 1915-1916. (Reprinted from the Archives of Internal Medicine, Vol. 15, Part ii, May 15, 1915.)

Holt, L. Emmet & Howland, John: The Diseases of Infancy and Childhood. (7th edition.) New York. D. Appleton & Co. 1916. 1180 pp.

Graves, Wm. P.: Gynecology. Philadelphia. W. B. Saunders Co. 1916. 770 pp.

Kolmer, John A.: A Practical Text-Book of Infection, Immunity, and Specific Therapy with Special Reference to Immunologic Technic. Philadelphia. W. B. Saunders Co. 1915. 809 pp.

Billings, Frank: Focal Infection. (The Lane Medical Lectures.) New York. D. Appleton & Co. 1916. 166 pp.

The Mayo Clinic: Collected Papers of, Edited by Mrs. M. H. Mellish. (Vol. 7.) Philadelphia. W. B. Saunders Co. 1916. 983 pp.

Jackson, Edward: The Ophthalmic Year Boob. Containing a Digest of Ophthalmic Literature for the Year 1915. (Vol. 12.) Denver, 1916. 479 pp.

Transactions of the Section on Ophthalmology of the American Medical Association at the 67th Annual Session, held at Detroit, June 13 to 16, 1916. 421 pp.

Transactions of the Philadelphia Academy of Surgery. (Vol. 18.) Philadelphia. 1916. 222 pp.

Medical and Surgical Reports of the Episcopal Hospital of the Protestant Episcopal Church in Philadelphia. (Vol. 3.) Philadelphia. W. J. Dornan. 356 pp.

The National Association for the Study and Prevention of Tuberculosis, Transactions of the Twelfth Annual Meeting. Washington, D. C., May 11 and 12, 1916. 517 pp.

LaRue, G. R.: A Revision of the Cestode Family Proteocephalidae. (Illinois Biological Monographs, Vol. 1, Nos. 1 and 2.) University of Illinois, Urbana. 1914. 350 pp.

Douthitt, Herman: Studies on the Cestode Family Anoplocephalidae. (Illinois Biological Monographs. Vol. 1, No. 3.) 95 pp.

Cort, W. W.: Some North American Larval Trematodes. (Illinois Biological Monographs Vol. 1, No. 4.) 86 pp.

Fracker, Stanley Black: The Classification of Lepidopterous Larva. (Illinois Biological Monographs. Vol. 2, No. 1.) 169 pp.

Gutbertlet, J. E.: On the Osteology of Some of the Loricati. (Illinois Biological Monographs. Vol. 2, No. 2.)

Watson, Minnie E.: Studies of Gregarines Including Descriptions of 21 New Species and a Synopsis of the Eugregarine Records from the Myriapoda, Cloeoptera and Orthoptera of the World. (Illinois Biological Monographs, Vol. 2, No. 3.)

Stevens, Frank L.: The Genus *Meliola* in Porto Rico, Including Descriptions of 62 New Species and Varieties and a Synopsis of all known Porto Rican Forms. (Illinois Biological Monographs, Vol. 2, No. 4.) 86 pp.

**Presented by the Cleveland Medical Journal**

Transactions of the College of Physicians of Philadelphia. (Third Series, Vol. 37.) Philadelphia, 1915. 499 pp.

Wadsworth, W. S.: Post-Mortem Examinations. Philadelphia. W. B. Saunders Co. 1915. 598 pp.

Robb, Hunter: Aseptic Surgical Technique. With Special Reference to Gynaecological Operations, Together with Notes on the Technique Employed in Certain Supplementary Procedures. (5th edition.) Philadelphia. J. B. Lippincott Co. 1916. 292 pp.

McConnell, Guthrie: A Manual of Pathology. (3rd edition). Philadelphia. W. B. Saunders Co. 1915. 600 pp.

Hazen, Henry H.: Skin Cancer. St. Louis. C. V. Mosby Co. 1916. 251 pp.

Birk, Dr. Walter: Guide to the Diseases of Infancy. (Translated from the German by F. W. Schultz.) New York. Rebman Co. 1916. 329 pp.

Mathews, Albert P.: Physiological Chemistry. A Text-Book and Manual for Students. (2nd edition.) New York. W. Wood & Co. 1916. 1040 pp.

Friesner, Isidore & Braum, Alfred: Cerebellar Abscess, Its Etiology, Pathology, Diagnosis and Treatment, Including Anatomy and Physiology of the Cerebellum. New York. P. B. Hoeber. 1916. 186 pp.

Brown, Lawrason: Rules for Recovery from Tuberculosis. A Layman's Handbook of Treatment. Philadelphia. 1916. 184 pp.

Haworth, Edwin P.: Nitro by Hypo. A Pep-tonized Tonic for the Physician. Kansas City. 1915. 128 pp.

Bach, Hugo: Ultra-Violet Light by Means of the Alpine Sun Lamp, Treatment and Indications. New York. P. B. Hoeber, 1916. 114 pp.

von Ruck, Karl & von Ruck, Silvio: Studies in Immunization against Tuberculosis. New York. P. B. Hoeber. 1916. 439 pp.

Hewat, Andrew F.: Examination of the Urine and other Clinical Side-Room Methods (5th edition.) New York. P. B. Hoeber. 211 pp.

Flagg, Paluel J.: The Art of Aæsthesia. Philadelphia. J. B. Lippincott Co. 1916. 341 pp.

Sutton, Richard L.: Diseases of the Skin. St. Louis. C. V. Mosby Co. 1916. 916 pp.

Hazen, Henry H.: Diseases of the Skin. St. Louis. C. V. Mosby Co. 1915. 539 pp.

Hayden, James R.: Venereal Diseases. A Manual for Students and Practitioners. (4th edition.) Philadelphia. Lea & Febiger, 1916. 365 pp.

Mitchell Edwin V.: Hospitals and the Law. New York. Rebman Co. 1915. 179 pp.

Egbert, Seneca. A Manual of Hygiene and Sanitation. (6th edition.) Philadelphia. Lea & Febiger. 1916. 525 pp.

United States Life Tables, 1910. Department of Commerce. Bureau of the Census. Washington, 1916. Govt. Prtg. Office.

Annual Report of the Board of Regents of the Smithsonian Institution Showing the Operations, Expenditures, and Condition of the Institution for the Year Ending June 30, 1915. Washington. Govt. Prtg. Office, 1916.

The International Medical Annual. A Year Book of Treatment and Practitioner's Index. (Thirty-Fourth Year.) New York. W. Wood, 1916.

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**Chorea.**—The results of a study of 226 cases of chorea are given by I. A. Abt and A. Levinson, Chicago (*Journal A. M. A.*, Nov. 4, 1916). Chorea is one of the common diseases of childhood, and of the 10,150 patients who have been treated in the Sarah Morris hospital for Children, chorea was the disease in 2.2 per cent. As regards the age of these patients, it ranged from 3½ to 18 years, but the age of most frequent appearance coincided with that usually given, namely, between the ages of 5 and 14. The disease occurs most frequently about twice as often in females as in males. Season does not seem to be so important; the greatest number of cases were observed in December and January and the smallest number in October. The generally credited reaction between rheumatism and chorea is not very strongly in evidence. Thirteen had a definite history of rheumatism and 130 had no history of it. The authors believe in the relationship between chorea and rheumatism and though they think that infectious diseases may produce chorea, it is not always easy to discover the definite nature of the infection, and the relationship does not seem to be very close. Tonsillitis was not a prominent factor and syphilis, which was found in two cases, seemed to have no connection with the chorea. The disease was frequently localized. Endocarditis was frequent but not a constant complication. The mortality was little less than 1 per cent. The duration of the disease varied from one day to more than a year. The average was from two to eight weeks. There were thirty-five recurrent cases. One patient had four recurrences, four had three and twenty had two. The treatment seemed to have no direct bearing on recurrences. The treatment recommended by the authors is rest in bed and complete isolation, baths and salicylates. They do not believe that arsenic has any special effect and, if given in too large doses, it may be dangerous.

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## PYLORIC STENOSIS IN INFANCY\*

By HARRY G. SLOAN, M. D.,

Fellow of the American College of Surgeons, Cleveland Ohio

*History:* We are indebted to Sir William Osler for bringing to the attention of the profession the earliest published account of a case of infantile pyloric stenosis. This he found, while browsing through the Transactions of the Medical Society of New Haven County, in the State of Connecticut, published in 1788. The author was Dr. Hezekiah Beardsley. The account reads as follows:

### Case of Schirrhus in the Pylorus of an Infant

*Communicated by Dr. Hezekiah Beardsley. Read April 2, 1788.*

A child of Mr. Joel Grannis, a respectable farmer in the town of Southington, in the first week of its infancy, was attacked with a puking, or ejection of the milk, and of every other substance it received into its stomach, almost instantaneously, and very little changed. The foeces were in small quantity and of an ash color, which continued with little variation till its death. For these complaints a physician was consulted, who treated it as a common case arising from acidity in the prima via; the testaceous powders and other absorbents and correctors of acid acrimony, were used for a long time without any apparent benefit. The child, notwithstanding it continued to eject whatever was received into the stomach, yet seemed otherwise pretty well, and increased in stature nearly in the same proportion as is common to that state of infancy, but more lean, with a pale countenance and a loose and wrinkled skin like that of old people. This, as early as I can recollect at this distance of time, was his appearance and situation when I was first called to attend him; he was now about two years old. I was at first inclined to attribute the disorder to a deficiency of the bile and gastric juices, so necessary to digestion and chylification, joined with a morbid relaxation of the stomach, the action of which seemed

\*Read before the Academy of Medicine of Cleveland, November 17, 1916.



wholly owing to the weight and pressure of its contents, as aliment taken in small quantities would often remain on it, till by the addition of fresh quantities the whole, or nearly all was ejected; but his thirst, or some other cause, most commonly occasioned his swallowing such large draughts as to cause an immediate ejection, and oftentimes before the cup was taken from his mouth. It did not appear that he was attended with nausea or sickness at his stomach, but he often complained that he was choaked, and of his own accord would introduce his finger or the probang, so as to excite the heaving of the stomach and an ejection of its contents; the use of this instrument was generally necessary if the stomach did not of itself, in a few moments, discharge its contents, the choking would in that short space of time become almost intolerable, which by this discharge was entirely removed. In this situation, with very little variation of symptoms he continued till death closed the painful and melancholy scene, when he was about five years of age. He was uncommonly cheerful and active considering his situation. A number of the most respectable medical characters were consulted and a variety of medicines were used to little or no effect. His death, though long expected, was sudden, which I did not learn till the second day after it took place. This late period, the almost intolerable stench, and the impatience of the people who collected for the funeral prevented so thorough an examination of the body as might otherwise have been made. On opening the thorax, the oesophagus was found greatly distended beyond its usual dimensions in such young subjects; from one end to the other of this tube, between the circular fibres which compose the middle coat, were small vesicles, some of which contained a tablespoonful of a thin fluid like water, and seemed capable of holding much more. I next examined the stomach, which was unusually large, the coats were about the thickness of a hog's bladder when fresh and distended with air; it contained about a wine pint of a fluid exactly resembling that found in the vesicles before mentioned, and which I suppose to have been received just before his death. The pylorus was invested with a hard, compact substance, or schirrosity, which so completely obstructed the passage into the duodenum as to admit with the greatest difficulty the finest fluid; whether this was the original disorder, or only a consequence, may perhaps be a question. In justice to myself I ought to mention that I had pro-

nounced a schirrosity in that part for months before the child's death. On removing the integuments of the abdomen, I was struck with the appearance of the vesica sellis, which was nearly five inches in length and more than one in diameter; it lay transversely across the abdomen and was imbedded into the small intestines, which were sphacelated wherever they came in contact with it; its contents were rather solid than fluid, and resembled flesh in a highly putrid state; its color was that of a very dark green, like the juice of the nightshade berry, and a fluid of the same color exuded through its sphacelated coats. The necessity there was of interring the body that evening put a stop to any further examination.

I should have been happy, gentlemen, if I had been able to have given you a more particular and accurate description of this very singular case, but the above-mentioned circumstances forbade.

(Copied from: Cases and Observations; by the Medical Society of New Haven County, in the State of Connecticut, Instituted in the Year 1784. New Haven. 1788, pp. 81-84).

The first detailed clinical and pathological account is that of Hirschsprung, published in the *Jahrbuch d. Kinderheilk*, 28, 1888, 1862.

*Etiology*: The cause of this abnormality is not definitely known. The general consensus of opinion leans toward the idea that it is of congenital development, because of the fact that many cases have been reported where the babe has vomited from the first day of its life. There is a description on record of the typical growth in the case of a dead baby born at term.

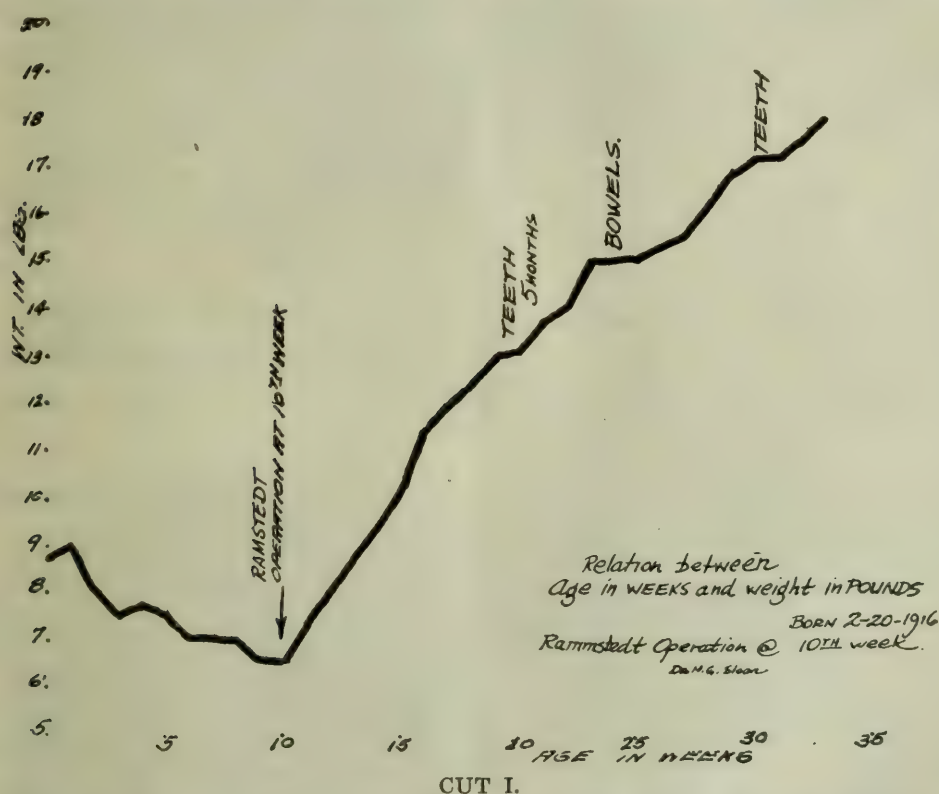
*Incidence*: It is hard to arrive accurately at the incidence, owing to the fact that many of the cases go undiagnosed to their death, labeled marasmus. Then, too, a certain proportion of the cases, showing a moderate grade of stenosis, recover after a period of several months. The fact of its apparently increasing frequency may be explained by the greater ability of physicians to make a diagnosis. In private practice, I might say, in four years one of our local men, seeing one hundred infants a year, has had four cases. This may be mere chance, but it makes one suspicious that possibly there may be many of them overlooked, and the symptoms explained on the ground of faulty feeding. In a series published by Holt, 90 per cent were breast-fed babes, and 80 per cent were males.



*Pathology:* There develops at the pylorus a dense hypertrophy of the circular muscles. There are varying grades of the degree of this overgrowth, the milder ones offering very little obstruction to the passage of food. The moderate and severe interfere with the passage proportionate to the degree that the lumen is encroached upon. The obstruction may be so complete that at death it is very difficult, as Dr. Beardsley has said in his original account, to force the finest fluid through the pylorus. Microscopic examination of the mass shows that the overgrowth consists principally of the circular muscle fibres. The mucosa is interfered with only by its compression. Grossly, the tumor mass varies from one to two centimeters in thickness and from two to three centimeters in length. The hypertrophy is annular and equal at all points on the circumference. It is of fibrous hardness to the touch, and gradually shades off on the one side into the stomach, and on the other into the intestine wall. It is so firm that on section it cuts like a dense scar tissue. In case the stenosis has been of marked grade and some standing, the stomach wall will often be found thickened by edema and hypertrophied through its attempt to pass the stomach contents by the pylorus.

*Clinical Course:* The birth is usually normal, and the babe up to the normal standard in weight. The symptoms are prone to start rather suddenly with vomiting. This vomiting occurs at the end of feeding or soon after it. It is forcible in type, and the feeding may be expelled to a distance of five or six feet from the babe. Ordinarily, the symptoms make their appearance between the third and tenth week of the baby's life. The degree and amount of vomiting depends entirely upon the amount of narrowing of the pylorus. Certain of the infants will be able to get along fairly well on feedings that are restricted in amount. In others they may not vomit after every meal, but after every second meal, when the feedings taken at both will be vomited. Apparently the vomiting takes place without much nausea, and the babe is eager for more nourishment. If the upper abdomen is inspected shortly after feeding, marked rhythmic peristaltic waves will be seen traversing the stomach from left to right, immediately preceding the vomiting. In a certain percentage of cases, varying between 15 and 80 per cent, according to various observers, it is possible to feel through the abdominal wall the little tumor mass situated at the pylorus. It is easier to feel this mass immediately after each feed-

ing with the babe in a warm bath so as to relax the abdominal muscles. The peristalsis frequently brings the mass up toward the anterior abdominal wall from its hidden position in the angle between the ribs and the spine. In three personal cases we were unable to palpate any tumor. Prolonged search was not made because of the enfeeblement of the babies. The demonstration of the tumor by palpation is not of paramount importance when one has the clinical signs of obstruction present—peristalsis and vomiting—coupled with the character of the stool. The character of the stool varies with the amount of food passing the pylorus. There



CUT I.

Pyloric stenosis in infancy. Weight chart, before and after Rammstedt operation. (Same case as Cuts II and V.)

is still some food going through; they are small but still of the fecal consistency. Where the obstruction is well-nigh complete, they have the appearance of meconium, the typical starvation stool. During the terminal stages, and also dependent on the amount of fluid passing the pylorus, there is a lessened amount of urine, which may amount to anuria. The weight loss is inversely proportionate to the amount of food passing the pylorus (Cut I). The starvation picture in the severe cases is progressive, and proportionate, also, to the amount of nourishment available for the child's metabolism. The shrunken appearance of the child gives an index to the amount of



dehydration of the body. Where the stenosis is fairly well marked, it takes on the average about three months before the child is starved to death. The least severe grades of stenosis give symptoms that are rather alarming in character for three or four weeks and then slowly decrease and the child goes on to recovery. However, care must be taken in regard to the amount of feeding for the next twelve or fifteen months. When once they have passed this period of life in their medical cure, usually no further symptoms occur. Several cases have been recorded where the condition was found at operation after the patient had reached adult life. The child develops normally as though nothing had happened. The oldest case coming to autopsy after operation is nine years. The operation in this case was gastroenterostomy. Autopsy disclosed the fact that the tumor was still present and was undiminished in its ability to obstruct the pylorus, although practically all the food was passing by way of the gastroenterostomy opening. Of the several other autopsy reports, from three to nine months after operation, where gastroenterostomy has been done, in every instance the tumor is still present. In the case of medical cure, the tumor persists and the stomach wall hypertrophies sufficiently to have power enough to force the food by the pylorus.

*Diagnosis:* On being called to see a child who shows the picture of pyloric obstruction, the medical man's natural hope is that he has to deal with the so-called pyloric spasm. Yet so eminent authority as Holt says that "spasm without hypertrophy of the pyloric musculature is yet to be proved." The first object is to determine accurately the amount of actual obstruction by means of aspiration of a measured feeding after it has been retained three hours, or by X-ray picture (Cut II). The size of the duodenal opening can be measured by a catheter if the constriction will permit its passage. The normal pylorus in the new-born babe takes a No. 14 F. Possessing this knowledge, we are able to form an opinion as to whether we wish to treat the case medically or depend on an operation for the cure. If this decision is made early in the malady the general mortality of the operation will be much reduced. Danger from operation increases with the baby's starvation.

Downs, who has the largest operative experience with this type of cases, reports a mortality of 30 per cent from the New York Children's Hospital. Many of the cases were in extremis before entrance. The observation of projectile vomiting in an infant,



## CUT II.

Pyloric stenosis in infancy.

A—Radiograph, showing obstruction of pylorus.

B—Radiograph, day after Rammstedt operation, showing relief of obstruction.

during the first three months of life, should make one suspicious of a pyloric stenosis, especially if upon observing the abdomen peri-



stalsis can be seen traversing the epigastrium from left to right. The weight loss and character of the stools and urine is to be taken into account. Further investigation can be made by feeding the infant a measured quantity of food and aspirating the stomach contents three hours later, to determine the amount of food that has passed the pylorus. X-ray observation after a bismuth meal will give further light on the degree of stenosis, as will also the duodenal tube.

*Treatment:* "The real question to decide is whether or not there exists a sufficient obstruction to endanger the babe's life, and how it can best be relieved." (Holt). This judgment should be made early in the illness, adds Dr. Holt, before the baby is so far exhausted as to militate against the successful procedure. Medical treatment, where it is practical, entails a long supervision, extending over possibly a year or a little longer. During the early stages of the treatment the child is exposed to the various dangers that are incident to its enfeebled condition, such as acute inanition, in which the babe may die within one or two days; marasmus, where there is rapid loss of weight; intercurrent infections, because of the lessened powers of resistance through starvation. Some of these babies who are treated medically die without any cause being disclosed by autopsy, even when their weight is stationary and they are receiving sufficient calories of food.

Moreover, we do not know that the obstruction does not increase in degree. *A priore*, one would suppose the resulting edema of the stomach wall and mucous membrane would increase it even if the obstructing tumor did not grow larger.

"The indications for operation may be summarized: 1st, when there is no lessening of vomiting; 2nd, when weight loss amounts to 25 to 50 grams a day; 3rd, when the investigation of the stomach shows that there is marked retention of food; 4th, the absence of fecal stools." (Holt).

When operated upon early, and the babe is in good condition, there is very little danger to the patient. Hemorrhage can be readily checked; there is no danger of the breaking open of the wound, and the normal amount of food may be fed at once. The previous high mortality is undoubtedly due to two factors: *First*, operation has been so long delayed that the baby is in very poor condition to withstand the slightest strain. Moreover, the starvation has so altered the chemistry of the body that the further insult

of an anesthetic is just enough to spell failure by augmenting the acidosis. Deaths in these babies are usually dependent on this fact. Acetone may be found in their urine and the use of ether for anesthesia, causing an aggravation of the acidosis, is enough to kill. *Second*, the choice of the type of operation. I have been much impressed with the greater simplicity of Rammstedt's procedure, the shorter time of anesthesia, the decreased amount of manipulation necessary to accomplish the procedure, and furthermore, the much greater postoperative ability of the child to take food and to hold it down. After a gastroenterostomy the baby has a rather stormy course for the next few days until he is able to retain nourishment, and the opening is in working order.

On the contrary, following the Rammstedt operation, the babies are able to take food at once and to retain it. Morgan has shown that the postoperative temperature rise after gastroenterostomy was 102, coming down to normal after 33 hours, whereas with the Rammstedt operation the temperature rose to 101.4 and fell to normal in 18 hours.

Downs records a postmortem examination of a baby who had been operated on by the Rammstedt method three months previously. Death resulted from pericarditis. The pylorus showed an elliptical cicatrix about half the size of the original wound. The scar was made up of the serous and mucous coats alone. The tumor found at operation had disappeared.

*Surgical Procedure:* The chemical problem of these little starved patients is of greatest importance to the success of the operation. Usually starvation has reached such a degree that they already show acetone in the urine. This finding demonstrates that the fat of the system is being oxidized for the nutrition of the rest of the body. All inhalation anesthetics tend to lessen the alkaline reserve of the blood. In order, in so far as possible, to combat this tendency we have made it a plan previous to operation to give these babies enemata of 30 cc. once every hour. This solution consists of sodium bicarbonate, five per cent, and cane sugar, five per cent. The soda decreases the acidosis, whereas the levulose from the sugar, being absorbed, is oxidized most readily of all substances that could be given. We have found the Murphy drip method in these infants to be impractical and have fallen back on the repeated small enemata. One hour before operation we add three drops of tincture of opium to the enema. The opium is given so that the

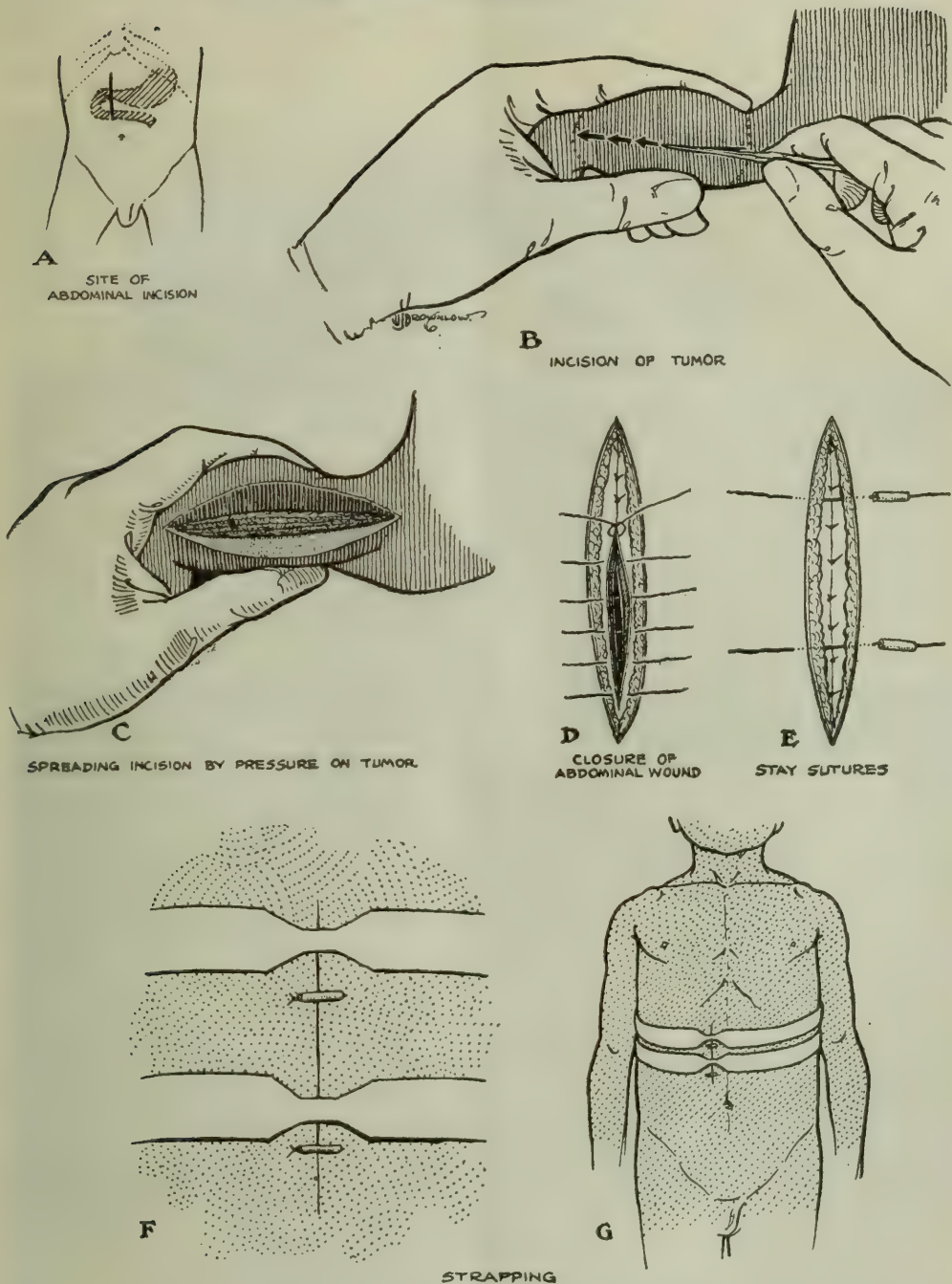


minimum amount of anesthesia will be required to hold the baby quiet during operation. The body except the operative field is wrapped in cotton batting and the baby laid on a blanket which covers two hot water bottles partially filled, in order that the body heat may be preserved as much as possible. Immediately anesthesia is complete, a small hypodermoclysis needle is inserted under each breast and from one to two hundred cubic centimeters of salt solution are given in this manner during the operation. The object of this extra amount of fluid introduced into the circulation is to dilute as far as possible the acid metabolic by-product. The fluid being excreted by way of the kidney acts as a vehicle to carry off the waste acid components. Thus there is a tendency to decrease the load thrown on the alkaline neutralizing factors of the body. We use ether as an anesthetic and aim to give just as little as possible. The skin, muscles and fascia are blocked with novocaine, 1 to 400. As soon as the tumor is delivered into the incision, very little anesthetic is needed on account of the action of the opium. The tumor is insensible to cutting. When once the stomach is exposed, a catheter is passed through the mouth down to the stomach in order to evacuate the gas which it contains. This is necessary in about two-thirds of the cases, as it is usual to find the stomach quite ballooned with gas. In one case it was necessary to pass a rectal catheter in order to deflate the colon, which was markedly distended with gas. We have found Rammstedt's operation gives the best results in that there is necessarily less trauma in performing it; the time to accomplish it is reduced, and the postoperative progress of the patient is much more favorable, showing less vomiting, less fever and in all a much less stormy postoperative course.

The Rammstedt operation was published in 1912. The author adopted the procedure from the suggestion of Weber of Dresden, made in 1910. Weber suggested the possibility of this procedure while he was attempting to do a pyloroplasty on an infant with pyloric stenosis. The cartilaginous rigidity of the tumor prevented his sewing the edges of the longitudinally cut tumor together after the method of the Finney pyloroplasty.

The tumor on being isolated is held between the thumb and the index finger. A sharp knife is used in making the longitudinal incision through the tumor down to the mucosa (Cut III-B). The incision runs from the stomach toward the intestine. This is on account

· INFANTILE · PYLORIC · STENOSIS ·  
RAMMSTEDT OPERATION.



## CUT III.

Pyloric stenosis in infancy. Technic of Rammstedt operation for infantile pyloric stenosis.

- A—Site of abdominal incision.
- B—Incision of tumor.
- C—Spreading incision by pressure on tumor.
- D—Closure of abdominal wound.
- E—Stay sutures.
- F and G—Method of strapping.

of the extra thickness of the stomach wall in comparison with that of the intestine. When once the circular muscle bands are divided down



to the mucosa, it is a very easy procedure to continue this on down through the tumor until a point is reached on the intestine where the tumor growth ceases. In case the incision is made in the op-



CUT IV.

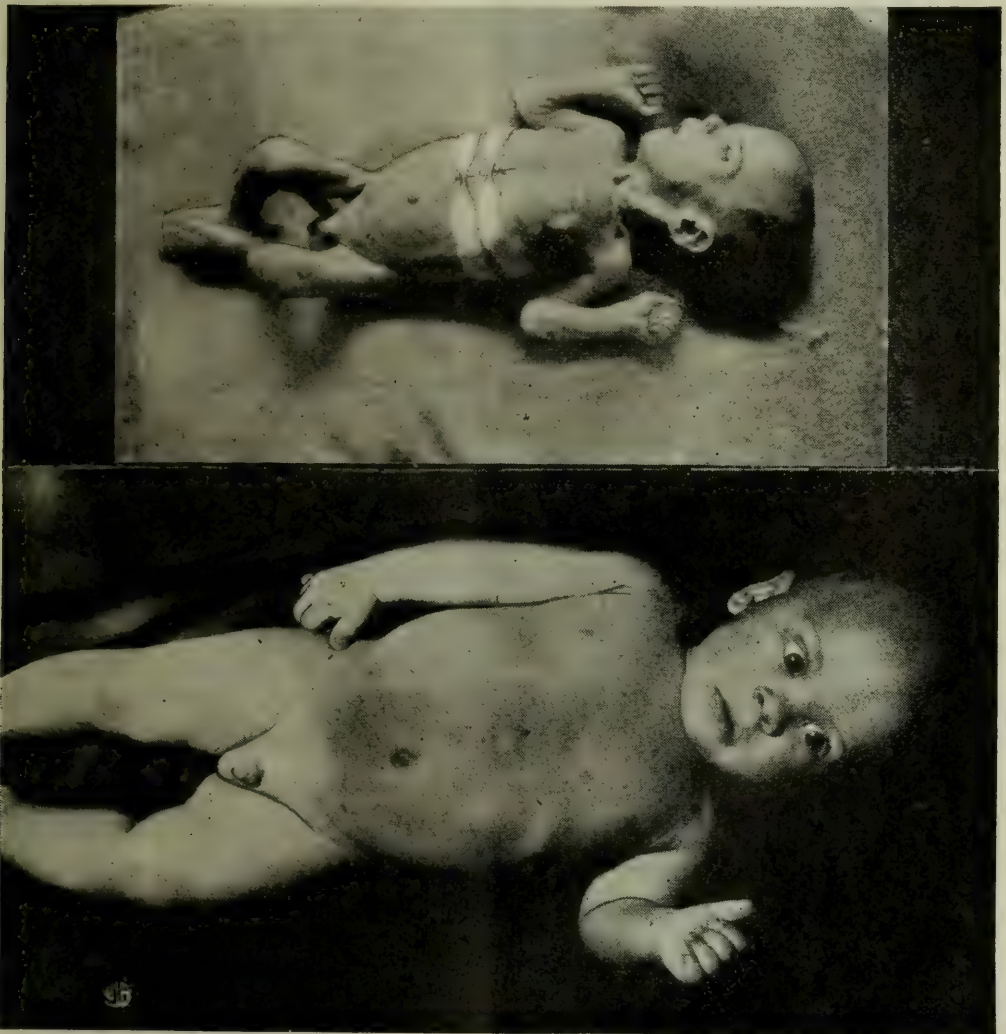
Pyloric stenosis in infancy.

A—Girl baby seven months after gastroenterostomy.

B—Boy baby seventeen months after gastroenterostomy.

posite direction, there is danger of cutting into the intestinal mucosa. As the incision is deepened it facilitates the ease of the operation if pressure is made on the tumor in such a way as to squeeze open the cut surfaces and thus put the tissue to be cut under even tension (Cut III-C). Any oozing is more readily controlled by making tension in this manner and it is easier to keep a bloodless field. In case any bleed-

ing vessels are encountered, they are ligated with split linen on a number 16 needle, which we ordinarily use in blood-vessel surgery. If bleeding points present themselves in the cut wall of the tumor in such a position that they cannot be sutured by this method, it is best to excise a piece of muscle from the abdominal incision and allow it to remain in contact with the bleeding surface for a few minutes in order to hasten clotting. Blood loss is carefully avoided as these babies bear it very poorly. No attempt is made to suture the longitudinal incision. It is allowed to gape open widely, and



CUT V.

Pyloric stenosis in infancy. (Same case as Cuts I and II.)

A—Day after Rammstedt operation.

B—Seven months after operation.

in this manner the lumen of the pylorus is re-established. We have found it necessary to undercut the edges of the incision with scissors when it reaches the mucosa. A free incision of the tumor



allows the mucous membrane to bulge into the opening sufficiently to relieve the obstruction. Further scissors dissection at this stage carries with it the danger of tearing the mucous membrane. Even if the mucosa is broken, it does not entail any great danger because of sterility of the duodenum; yet one would rather not have it happen.

The pylorus is replaced and pushed up against the under surface of the liver, in order to facilitate clotting should there be an oozing from the cut surface. Closure of the abdominal incision is made with single strands of No. 1 chromic gut suture which include fascia, muscle and peritoneum (Cut III-D). Two or three silk worm gut sutures protected with rubber tubing are then passed through skin, fascia and muscle (Cut III-E). If there is any vomiting in these little under-nourished patients, where the tissue is so delicate and healing may be delayed on account of poor nutrition, the abdominal incision may be broken open unless re-enforced with adhesive. This is applied in transverse strips shaped like a butterfly, the middle of the strip being cut on either side so as to narrow the adhesive just where it crosses the wound. The wound itself and the narrow parts of the adhesive are both painted with two per cent tincture of iodine and the adhesive applied directly to the skin while holding the edges of the wound closely together (Cut III-F and G).

*Postoperative Treatment:* The babies are put head down at an angle of 45 degrees for three hours following operation. In this position, in case there is any oozing, the cut surfaces of the tumor are more liable to be pressed close up to the under surface of the liver. The baby's head is then gradually raised until the body assumes a sitting posture. This position is maintained by the use of a little swing made of gauze passing under the buttocks and tied to either side of the crib. Small pillows are adjusted at the back to make it as comfortable as possible. In case any gas accumulates in the stomach, this position gives it a more ready exit through eructation. Feeding is started as soon as the baby becomes conscious; 15 cc. are given every two hours with the same amount of water half way between feedings. Breast milk is the best food in case it is available from the baby's mother. If not, a dilution of cow's milk and water is given, which would correspond to the diet of a new-born baby. Daily cleansing enemata are given, as by keeping the lower bowel free the babies seem better able to take and hold their feedings. For the first two days following

operation, the soda and sugar enemata are given to be retained three or four times in 24 hours. By this time the normal intake of food will take care of the lowered alkaline reserve factor and dehydration will have been overcome.

After the Rammstedt operation, vomiting is seen much less than after gastroenterostomy. In case the baby cries for 15 minutes or over, we advocate giving paregoric, 30 drops, to keep them quiet during the healing of the wound. There is practically no shock when the surgical procedure is carried out on the principles outlined above. Food is taken as in a normal infant and the weight gain is immediate and progressive. So far, literature contains no account of the recurrence of the symptoms following the Rammstedt operation.

The author has operated on three cases within the past year. Two had gastroenterostomies (Cut IV) and one the Rammstedt operation (Cut V). All three are now as husky and well as though nothing had ever happened to them.

#### References

- Hirschsprung: *Jahr. d. Kinderheilk.*, 28, 1888, 62.  
Ramstedt: *Med. klinik*, 1912, VIII, 1702.  
Beardsley: Cases and Observations: By the Medical Society of New Haven County in State of Connecticut. 1788.  
Downes: *J. Am. M. Ass.*, 1914, LXII, 2019-2023. *Surg., Gyn. and Obst.*, 1916, XXII, 251.  
Dunn and Howell: *Arch. Pediat.*, 1915, XXXII, 423-433.  
Hess: *Am. J. Dis. Child.*, 1914, VII, 184-207.  
Holt: *J. Am. M. Ass.*, 1914, LXII, 2014-2019.  
Ibrahim: *Munchen. med. Wchnschr.*, 1905, LII, 674.  
Mixer: *Boston M. & S. J.*, 1913, CLXIX, 309.  
Morgan: *Am. J. Dis. Ch.*, 1916, XI, 245.  
Scudder: *Boston M. & S. J.*, 1915, CLXXII, 166. *Ann. Surg.*, 1914, LIX, 239-257.

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**Chronic Otitis Media.**--J. F. Barnhill, Indianapolis (*Journal A. M. A.*, Jan. 6, 1917), says that the end results in surgical cases in chronic suppurative otitis media depend on many things, the age of the patient, the condition of the nose, naso pharynx and pharynx, the nature and violence of the original aural infection, the presence of complications, the period of the disease in which the attempt to cure is made, the general physical condition of the patient and the skill and judgment of the operator. The efficiency of the after-treatment, also, has much to do with the final results, and the conduct of the patient himself, who may neglect to follow the instructions or to return to receive further instruction which may be needed. The effect on hearing is usually good from middle ear operation; and the suppuration is cured in probably 90 per cent, provided the treatment is first class. Tuberculous cases are, of course, excluded. Nonsurgical cases probably have no mortality, but when bone necrosis occurs, the life of the patient is in danger and proper surgical treatment is the best recourse.

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## A CASE OF FRACTURE OF THE BASE OF THE SKULL AND SOME OF ITS CHARACTERISTIC SYMPTOMS\*

By ARNOLD PESKIND, M. D., Cleveland

Bessie L., aet. six years. Automobile accident.

Admitted to the East 55th Street Hospital at 2:53 P. M. on July 24, 1916.

The child, unconscious, was bleeding profusely from the mouth, nose and right ear. Respiration was labored.

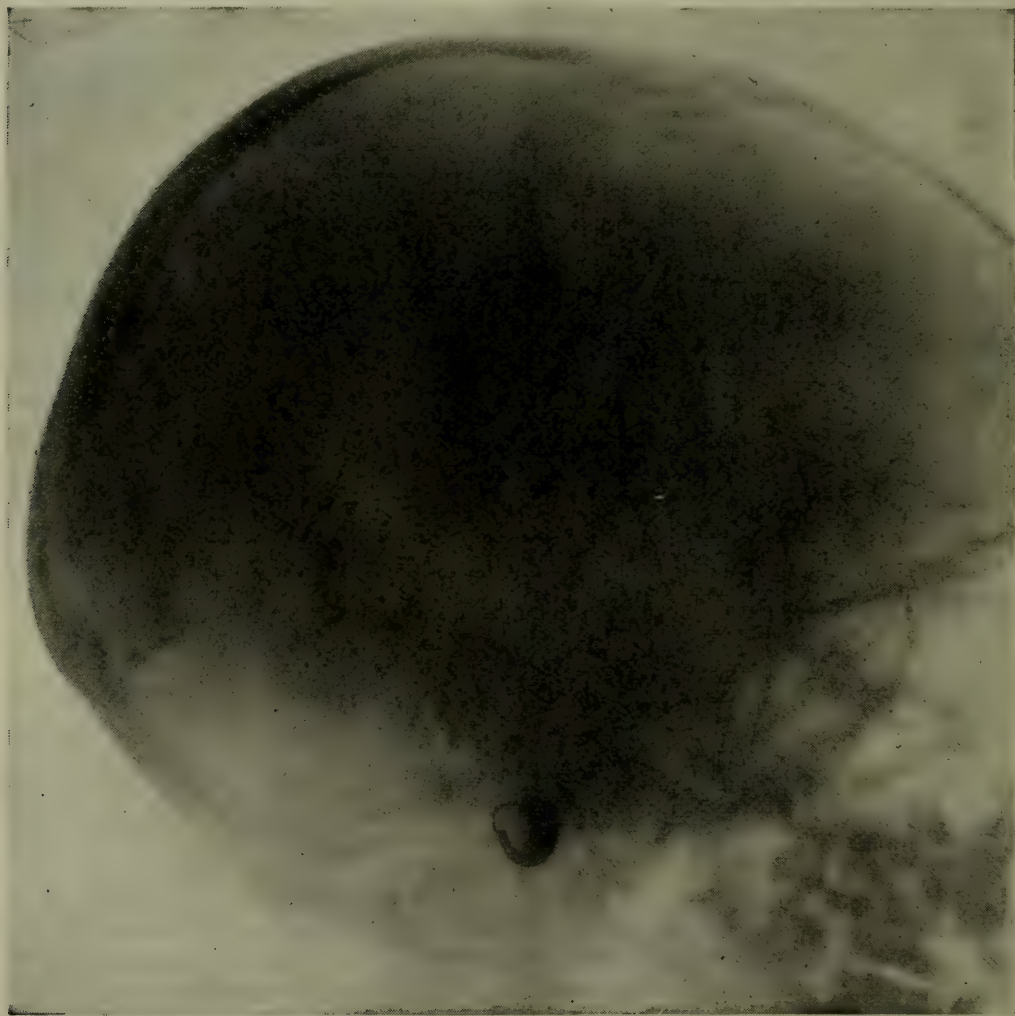


Fig. 1—Bessie L.—, X-ray taken two hours after injury. Shows fractures at base and side of skull.

The girl was first seen by Dr. Kurlander, soon after by Dr. S. Peskind, and I saw her near 4 P. M. Fracture of the base of the skull involving the temporal, parietal and occipital bones to the right of the median line was easily made out. There were also other

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\*Read before the Clinical and Pathological Section of the Academy of Medicine of Cleveland, December 1, 1916.

more or less extensive body injuries, but no other fractures were discovered.

X-ray at 4 P. M. corroborated the diagnosis.

Patient was taken to the operating room at 6:50 P. M.

The incision was made a little below the occipital protuberance, then carried upward in a curved line, and brought down to within one inch outside and below the mastoid process. The skin and muscle flap was pushed aside and two broken pieces of bone were found overlapping, one from the parietal, one fragment from the contiguous occipital bone, the latter partly driven under the portion of the occipital bone which was intact. Both fragments were loose, separated at their sutural junction, completely dislocated downward and outward. I removed both fragments, as in my judgment to leave such fragments in situ is to invite further mischief. The diploe was bleeding and packed with wax. Loose clots under the scalp and under the occipital bone were removed. There was much capillary oozing, but I did not deem it wise to spend too much time in the attempt to stop it completely. The child was in the operating room not more than twenty minutes. A very little chloroform was used, as the child was unconscious. The removed fragments were each one and seven-eighths inches long by one inch wide. Upon examination, these two removed fragments disclosed the peculiar effect the impact had upon the bones when the child was hit by the automobile. In the fragment of the occipital bone the outer table only was found broken; in the fragment of the contiguous parietal bone the inner table only was found split through in stellate shape. During the first four days the child was restless, tossed her hands and feet about. The catheter was resorted to, to relieve the bladder. There were involuntary evacuations of the bowels and urine. Liquids put into the mouth were slowly swallowed. At times the muscles of the legs and arms would become rigid. In the afternoon of July 27th, the child became more conscious and spoke somewhat incoherently. July 29th the child began to talk intelligently and in twenty-four hours after that was able to sit up in bed.

A short resumé of the course of the case is as follows: From the evening of July 24th to the evening of July 26th the temperature ranged between 101.3° and 104° F.; the pulse from 132 to 146 per minute.

On July 27th the temperature was 99.4, pulse 120 to 130, and remained normal for three weeks. The child was allowed to sit up



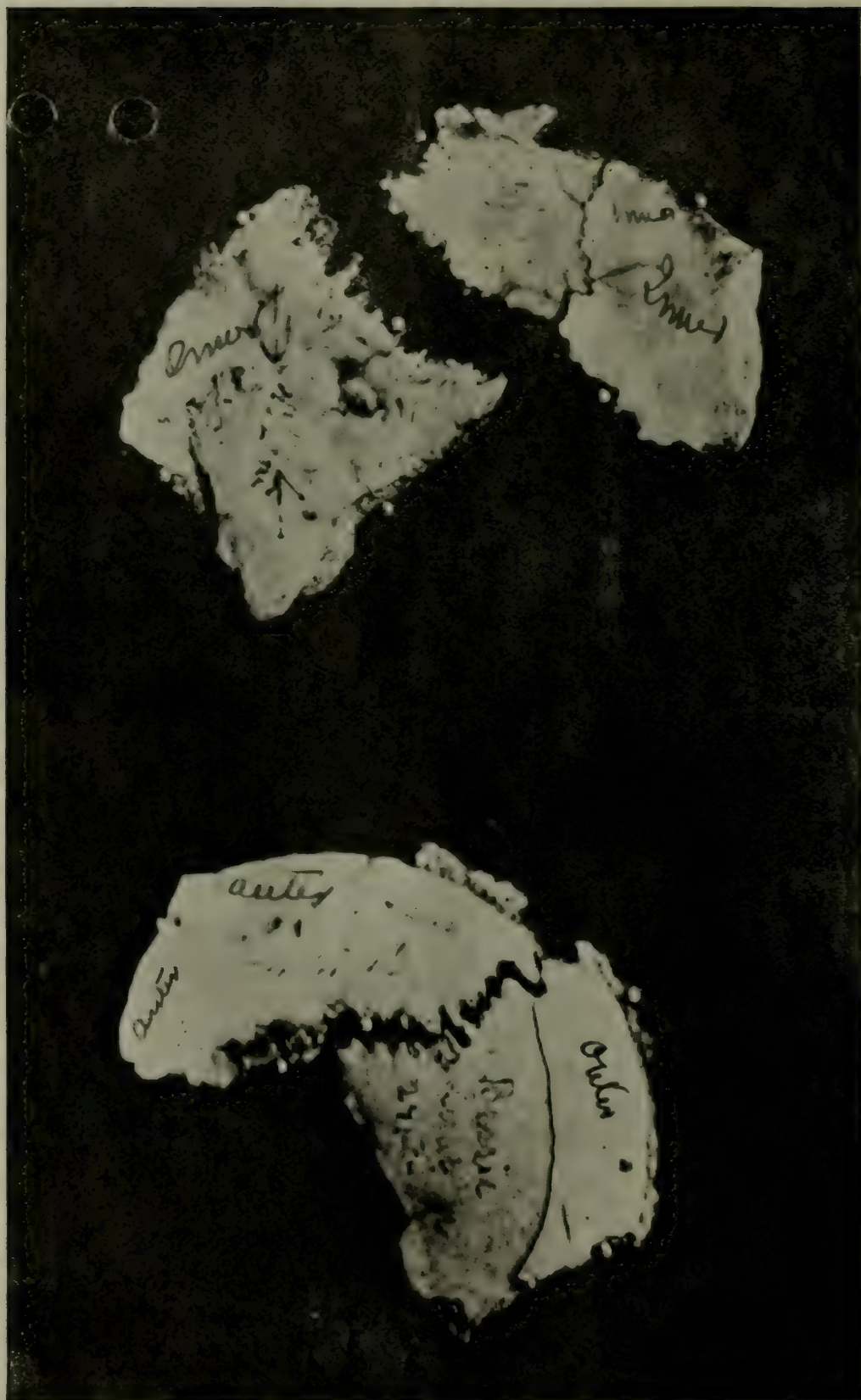


Fig. 2—Bessie L——, fragments of bone removed. Photograph shows lines of fractures in the two bones, the different surfaces involved in each bone.

August 14th and was about in her room in a couple of days. But, on August 20th the temperature rose to  $103.6^{\circ}$ . As the fever continued to be high the patient was taken to the operating room August 23rd. The wound was opened and an organized clot was removed.

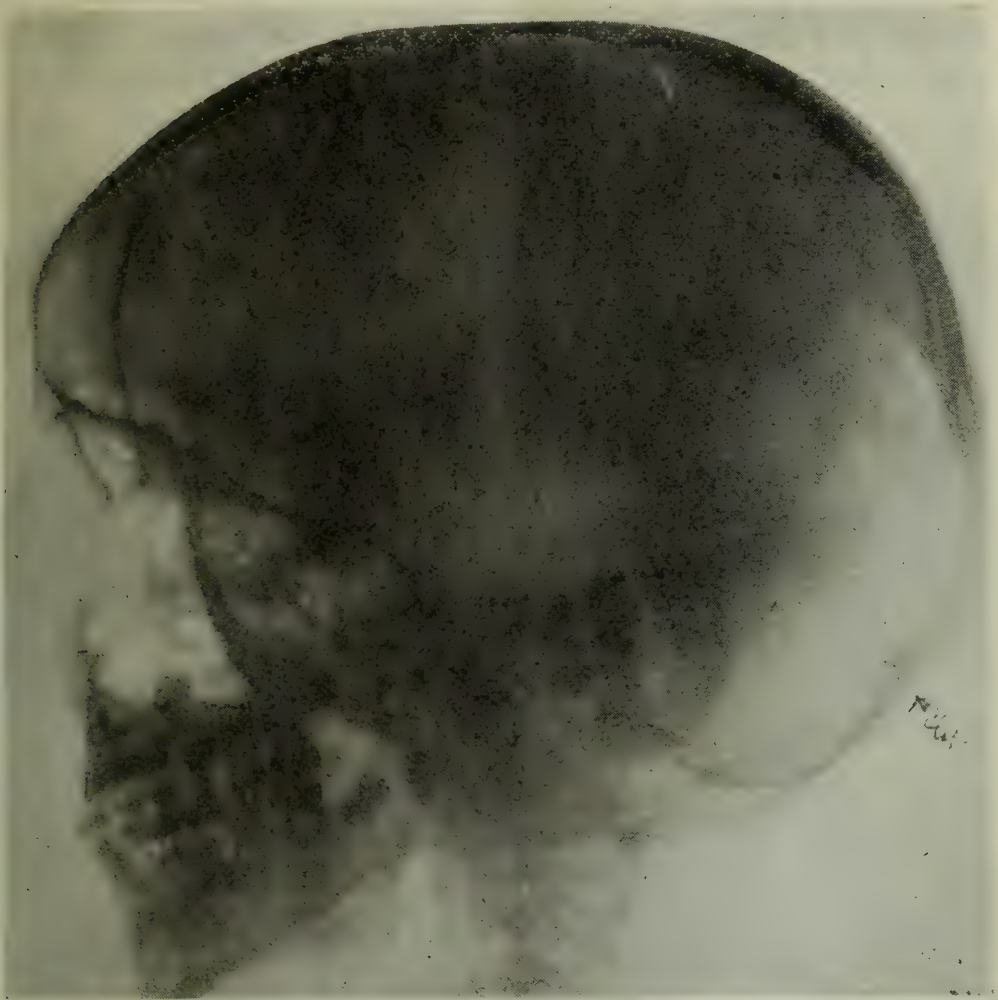


Fig. 3—Bessie L——, one month after injury, August 23, 1916. Shows blood clot and defect in skull.

But this did not affect the temperature, which kept on oscillating between  $101^{\circ}$  and  $105.4^{\circ}$  F. August 26th, suspecting infection deeper along the base of the skull, the child was again taken to the operating room. A small hole was made low down in the occiput with a trepan  $3/16$  of an inch in diameter and an exploratory needle attached to an aspirating syringe was passed along the base in the posterior fossa. The aspirator brought away about 40 c.c. of dark, almost black fluid blood, but no pus. The child was free from fever August 29th and 30th. August 31st the temperature ranged between  $99^{\circ}$  and  $105^{\circ}$  and after that a variable fever lasted for nearly



a month, which I thought was due to the irritative effects of the disintegrated blood on the basal meninges. At no time was there any marked leucocytosis. After September 27th the temperature and pulse remained normal. The child was kept in bed nearly three weeks after the temperature reached the normal point and was sent home the last day of October, apparently in good health, except for the persistence of right facial palsy, abduction-paralysis of the right eye. A persistent complete bitemporal hemianopsia, and hemiachromatopsia, also complete absence of light reflex over the blind

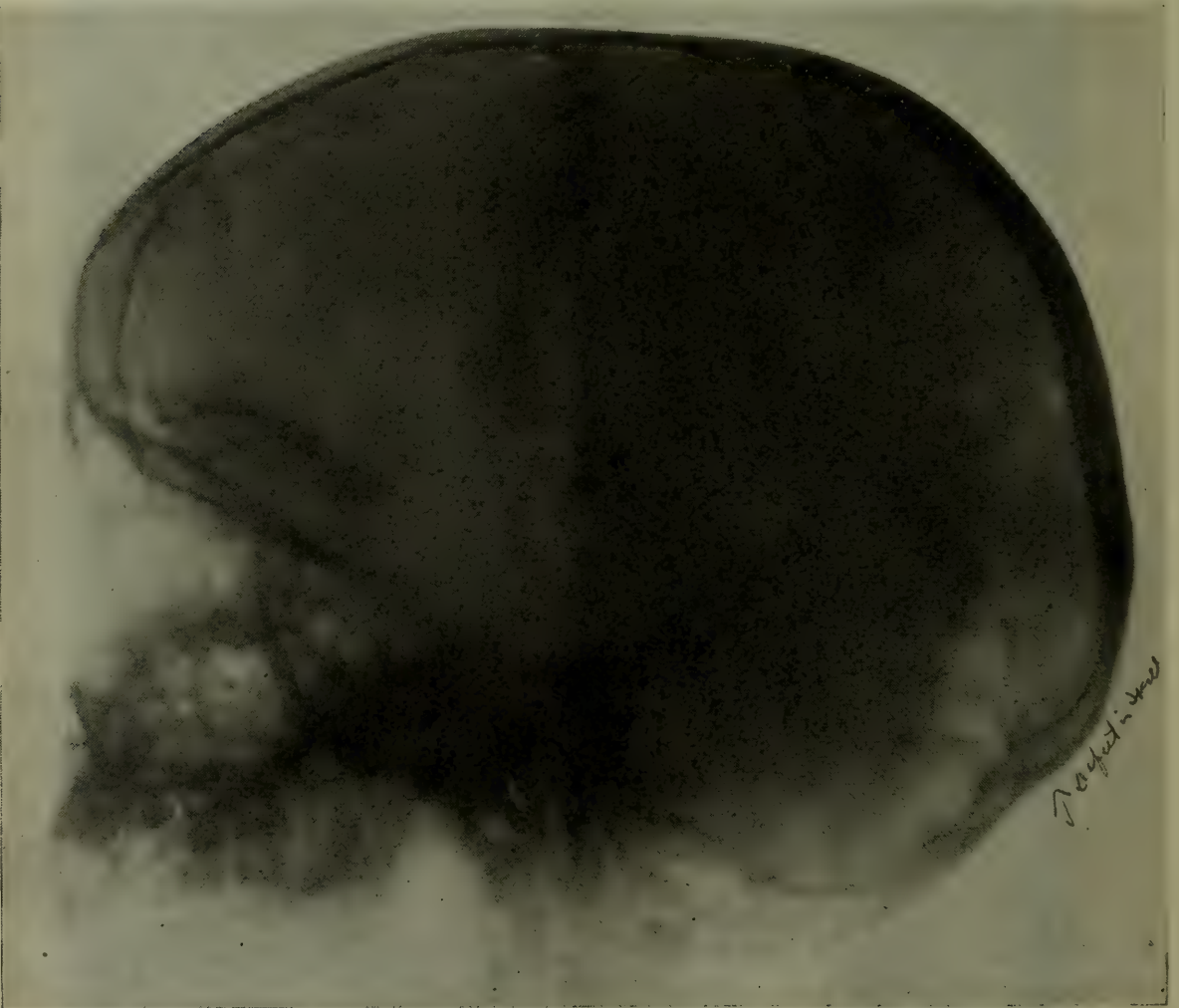


Fig. 4—Bessie L——, X-ray August 26, 1916. Defect in skull covered with dense exudate.

area of the eyes. These paralytic phenomena were discovered as soon as the child rallied from the immediate effects of the injury.

A few clinical data will now be cited, which were the guiding points in the attempt to delimit the location and extent of the injury. There was nothing characteristic in the circulatory system

to indicate serious brain lesion. The heart was irregular for a while, but it soon recovered its regularity. The pulse soon after admission ranged from 116 to 120 per minute, not very slow though by no means too rapid when the great loss of blood is taken into

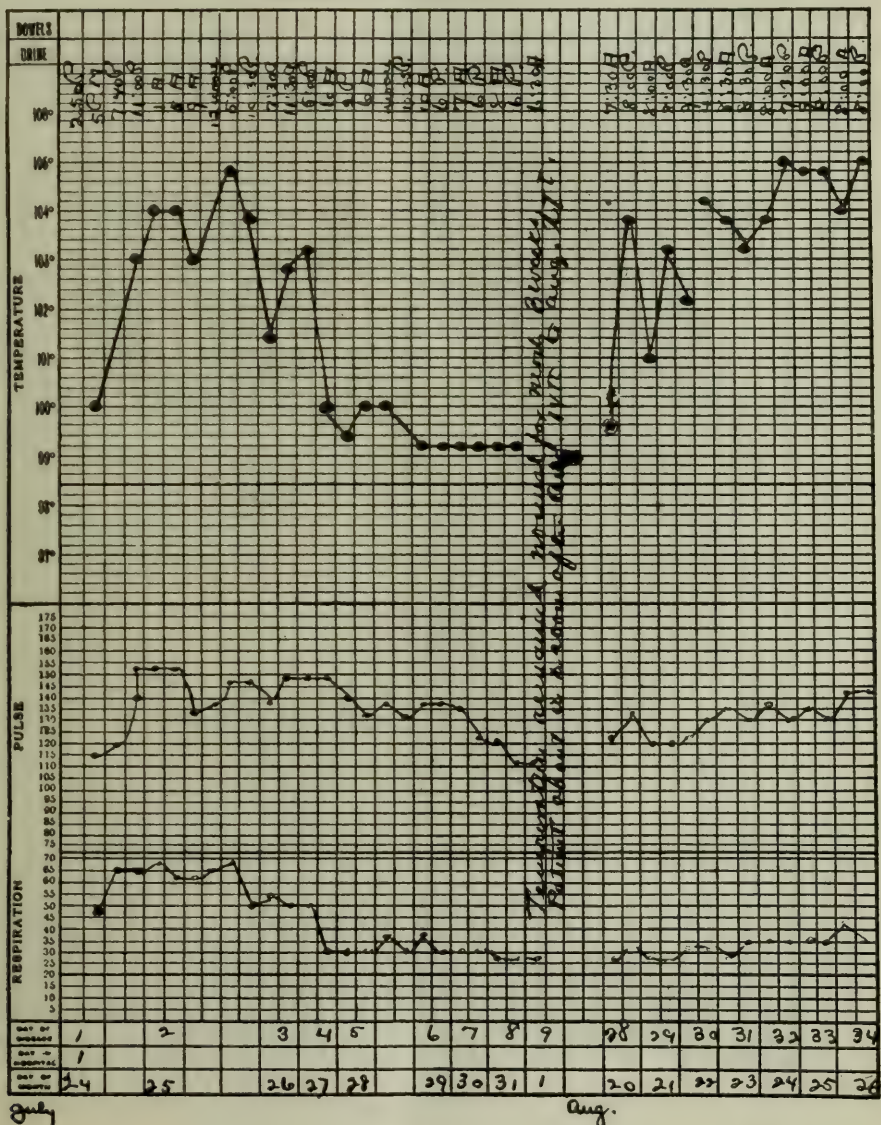
1  
Fracture of the base of the skull

The East 55th Street Hospital

From July 24, 1916  
To Aug. 26, 1916

ROOM No. Bed No. M. Bessie Sauls  
Record No 2314

1916  
Nurse in Charge



Bessie L.—, temperature chart 1

consideration. The pulse, however, rose rapidly after the depressed fragments were removed and the pressure on the brain was lessened. Throughout the whole stormy period of reaction after the injury and subsequently during the inflammatory or irritative period which accompanied the absorption of the foreign body—the blood clots

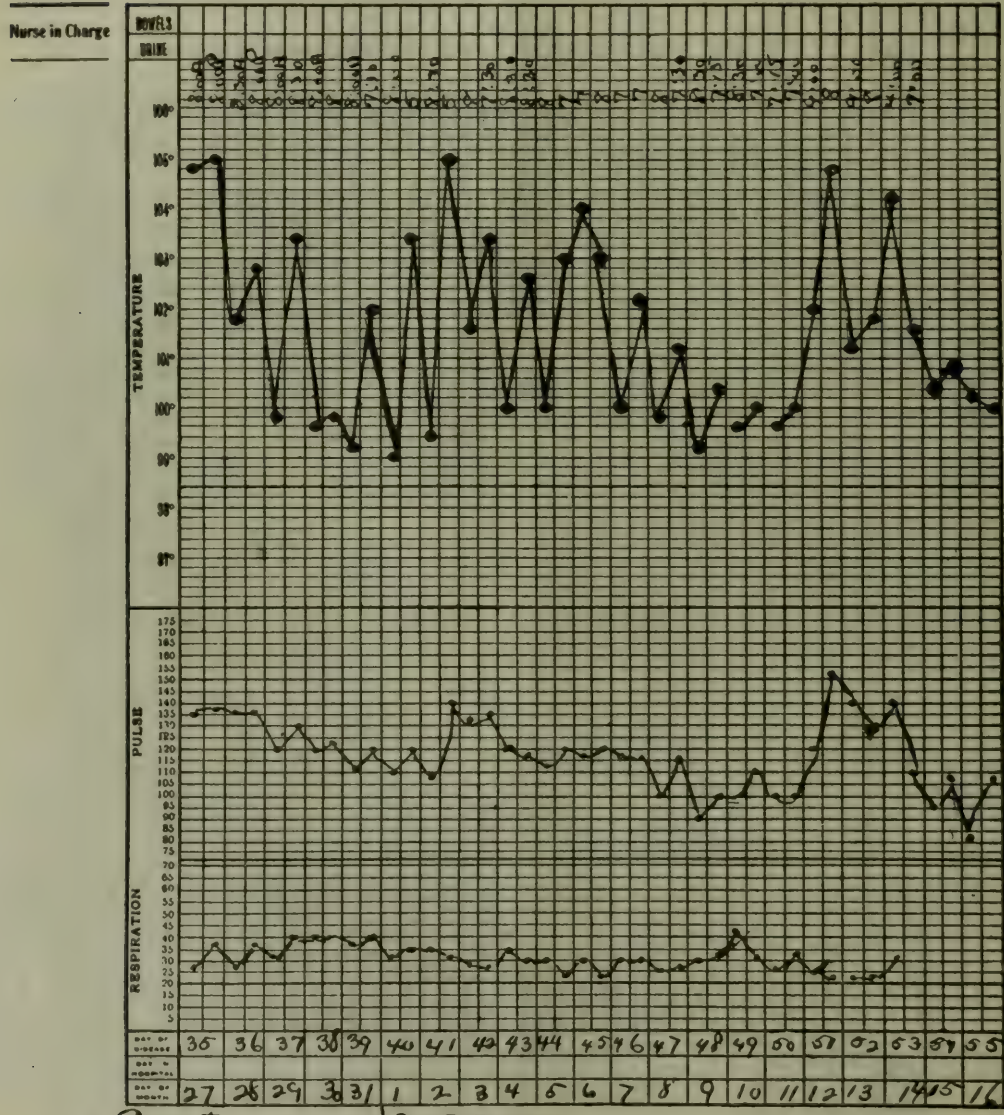


under the base of the brain—the pulse and temperature remained high. There were no marked blood changes at any time, except a slight leucocytosis, probably due to the severe hemorrhage that

2.

The East 55th Street Hospital From Aug. 27, 1916 To Sept. 16, 1916

ROOM No. Bed No. M Bessie Saulb  
Record No. 2314



Bessie L., temperature chart 2

followed the fracture of the skull. The effects of the injury upon the nervous system, however, were more pronounced. The right facial nerve, the abducens and the crossed fibres of the optic tract were divided or seriously injured, probably from the beginning, and were not all due to pressure by hematoma. There was complete facial paralysis on the right side, probably due to injury of the

nerve in the petrous portion of the temporal bone. The sixth nerve was also paralyzed and the right eye was drawn in toward the nose and could only be carried outward as far as the middle line when the child was in a condition to know enough to execute move-

3

The East 55th Street Hospital

From Sept 16<sup>th</sup>, 1916

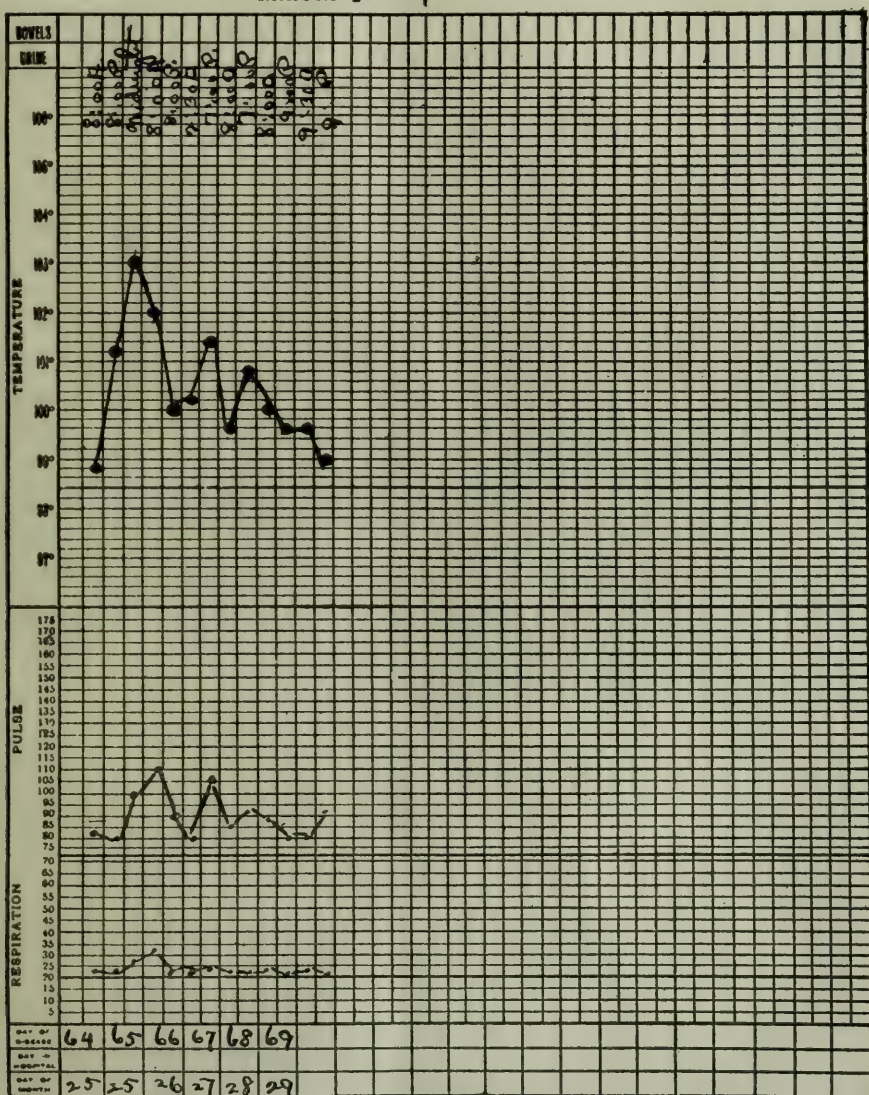
To Sept. 20, 1916

To October 30-16

ROOM No. Bed No. M Bessie Lamb

Record No. 2314

Nurse in Charge



Bessie L——, temperature chart 3

ments demanded from her. There was, and still is, complete bitemporal hemianopsia and hemiachromatopsia. The pupils remained unaffected by light as is usual when the pupillary ganglionic fibres are injured anterior to the basal ganglia. The injury also involved the crossed fibres of the optic tract close to the chiasm. The oc-





Fig. 5—Bessie L——, photo July 31, 1916, a week after injury



Fig. 6—Bessie L——, Photo October 29th, 1916, about three months after injury



cipital cortical lesions probably escaped injury, though one would expect to find them rather badly damaged, considering the large hematoma which was pressing upon the occipital lobes, also the extent of the fracture, which included much of the bone covering of this area. Following these observations the conclusion drawn was that the fracture involved the temporal, parietal, occipital and perhaps also the sphenoid bone along the base of the skull and anteriorly to the pons, or rather the corpora quadrigemina.



Fig. 7—Bessie L——, about a year before injury.

Looking at the fever chart one would suspect that sepsis might have been the cause of the great oscillations of temperature. Nevertheless the fluid drawn from the skull favors the supposition that the source of the fever was irritative rather than septic. I think the too early attempt of the child to walk precipitated the rise of temperature and the probable freedom from fever following enforced rest for nearly a month after the second attack of fever

seems to justify this assumption. I think no patient with fracture along the base of the skull should be allowed to be about before a month after the symptoms of reaction subside.

A word upon the prognosis in this case. No prognosis was attempted until the child was ready to leave the hospital, when the immediate effects of the injury were better known. But, looking into the future of this case, experience warns against making any positive prognosis and if made at all it should be tentative and deferred for several or more years. In an injury as extensive as in this case, which involves large areas of the base of the brain, to foretell the future health of the patient requires much serious thought and consideration. We all have met such and similar cases and we have learned the consequences, and the tables of the ubiquitous statistician often disclose the records of clinicians, surgeons, ophthalmologists and alienists as being nothing else than detached paragraphs of the same sad story.

Note—Jan. 18, 1917. The eye symptoms are much improved, though the face is still much deformed.

2414 East 55th Street.

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**The Wassermann Reaction.**—J. T. King, Jr., Baltimore (*Journal A. M. A.*, Dec. 2, 1916), reports some investigations in regard to the so-called provocative test for syphilis. He selected patients with known positive Wassermann reaction and in various stages and forms of syphilis of the central nervous system and aorta, tabes dorsalis and paresis. In some the test was done before the administration of salvarsan, and four, eighteen, twenty-four and forty-eight hours after the injection. Most of the patients, however, were followed over five days, and some for several weeks. The details of making the test are given and the results tabulated. His conclusions as stated are: 1. In most cases little change occurs in the strength of the Wassermann reaction during the first five days following the administration of salvarsan. In this series of twenty treatments, only one case, in the primary stage, showed a marked weakening of the test. 2. Some previously untreated cases may be given prolonged salvarsan therapy with very little weakening of the Wassermann reaction. Such cases, however, show striking improvement symptomatically. 3. In this series only one insignificant temporary increase (provocative reaction) in the complement-binding substance could be demonstrated, following the administration of salvarsan. 4. It is improbable that, over short periods of time, there occurs any marked spontaneous fluctuation in the amount of complement-fixing substance in the blood of syphilitics. 5. Definite proof of the existence of the provocative Wassermann reaction following salvarsan is not at hand at the present time.

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**AN OBSCURE CASE OF EMPYEMA\***

By ARNOLD PESKIND, M. D., Cleveland

This case illustrates the necessity for thorough search for a focus of infection in obscure lesions, especially of septic type.

Hortense G., aet. 14 months.

Residence of parents, Elyria, Ohio.

The child suffered for about three weeks with some obscure trouble accompanied by fever, which ranged from 99° to 105° and over. Dr. Charles Cushing, of Elyria, placed the child in St. Joseph Charity Hospital of that city on July 20th, where the child remained ten days. The temperature chart recorded in Elyria, and which is here reproduced in copy, shows a daily variation from 97° or 98° to 105° and 105.6° F. Twice the temperature ranged between 96.2° and 105° F. Pulse and respiration gave no indication of the source of the trouble. The lowest pulse was 106, July 20th, and the highest 158, July 27th. Respiration ranged between 30 and 40 per minute. The child never had to cough. Consultants, specialists in the diseases of childhood, suggested a gastro-intestinal source of the infection. No relief followed. The child was removed to Cleveland and placed under the care of Dr. Ravitz, who sent her to the East 55th Street Hospital. She was admitted on July 31st, 1915. The diagnosis card was not signed and was left blank. I saw the child for the first time in consultation with Dr. Ravitz on August 5th. Upon careful examination it seemed to me that I detected some difference in respiration on the right side of the chest for a small area near the sternum in the third intercostal space. As I could not find any gastro-intestinal source to explain the fever, I suggested a more liberal diet, as the child seemed to be unnecessarily deprived of sufficient food. I saw the child again with Dr. Ravitz on August 9th, and the same spot seemed to show the same difference in pitch and breathing. It was hard to be positive with a patient a baby of fourteen months old. An X-ray seemed to corroborate the suspicion. August 13th the child's temperature again reached over 105°, when I suggested the exploration of the suspected spot. The parents readily consented, as they realized that there was nothing to lose. The child was taken to the operating room and, in the presence of the family physician, was placed on the operating table. Dr. B. Peskind administered a few whiffs of chloroform. A twenty c.c. record syringe, provided with a three-way stop cock

\*Read before the Clinical and Pathological Section of the Academy of Medicine of Cleveland, December 1, 1916.

and a rather strong needle about two and one-half inches long screwed to the stop cock, was used to explore the spot. The needle was inserted in the third intercostal space close to the sternum, just a little below and to the right, which I thought was just to the right

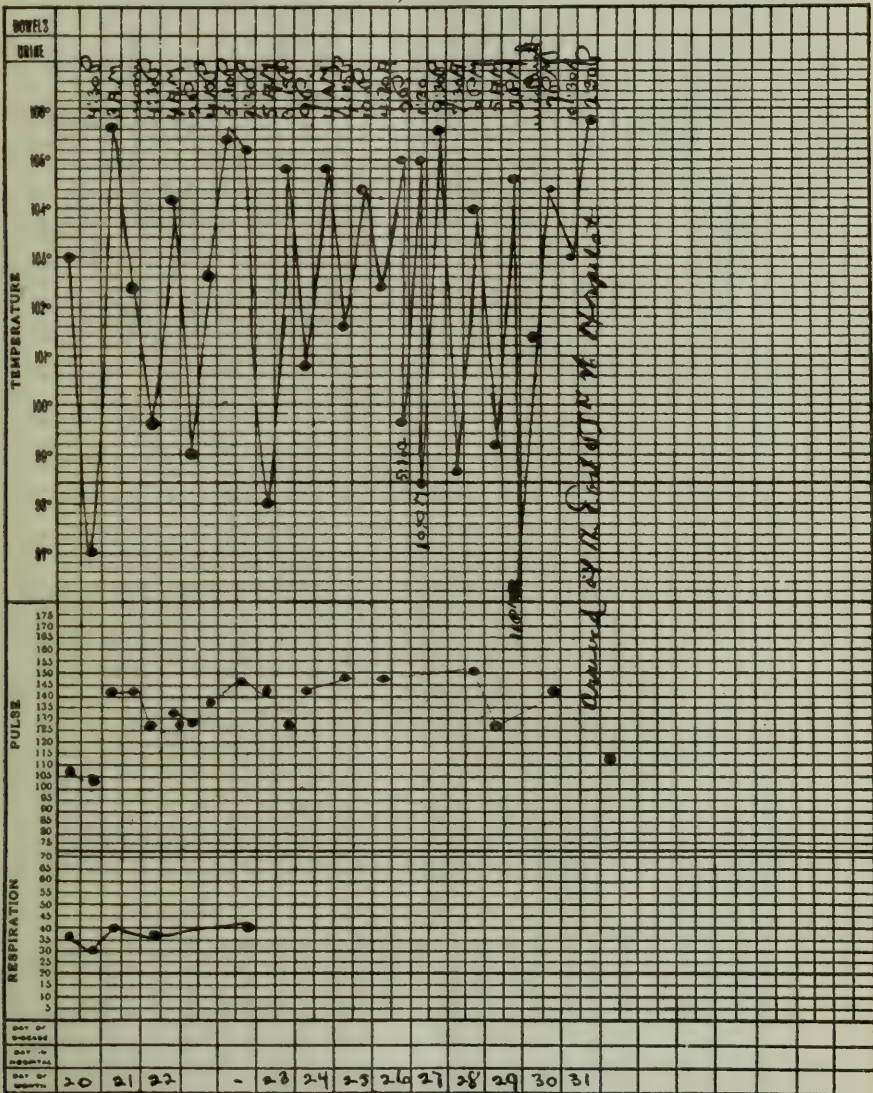
*Copied from the  
Elyria Memorial Hospital  
(St. Joseph's Charity Hospital.)*

The East 55th Street Hospital

From July 20 1915  
To July 31 1915

ROOM No. Bed No. *Miss Hortense Goldsmith*  
Record No. *1527*

Nurse in Charge



July 1915.

Hortense G——, temperature chart 1

of the right border of the right auricle of the heart, about where the pleura touches the pericordium. The needle felt as if passing through a cystic sack. Gentle suction brought out a little less than a drachm of sero-purulent fluid. That was all I could obtain without moving the needle in various directions. This I hesitated to do in the dark. The child was in the operating room less than fifteen minutes. It was then determined in case the fever should continue



as heretofore to explore this part of the lung by the open method. By evening, however, the temperature dropped to normal and remained so, the temperature varying between 98° and 99° F. for several days afterward. The child was sent home August 18th



Fig. 1—Hortense G——, X-ray August 10, 1915. Shadow in upper right chest apparently well, five days after the paracentesis. An X-ray taken just before the child left the hospital showed complete clearing up of the lung shadow. Today, over a year since this paracentesis, the child is in excellent health, and has never had a recurrence of

any fever, nor does she show any signs of previous pulmonary trouble.

The East 55th Street Hospital

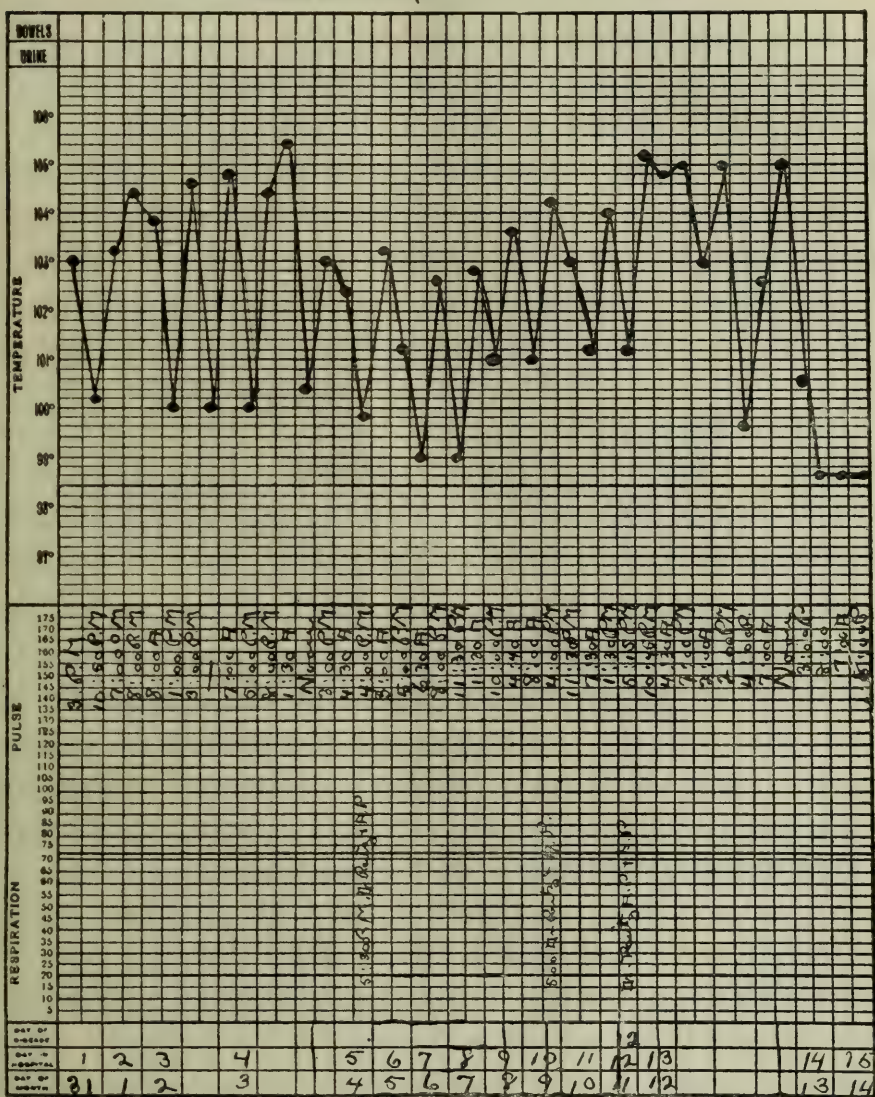
From July 31, 1915

To Aug. 14, 1915

Discharged Aug. 18-15.

ROOM No. Bed No. Miss Hortense Goldsmith  
Record No. 1527

Nurse in Charge



July

Hortense G——, temperature chart 2

The most interesting feature in this case is that the child must have originally suffered from a latent pneumonia or pleuro-pneumonia of the upper right lung, which culminated in a small interlobar encysted empyema perhaps in the pleuro-pericardial fold. This was either emptied by the needle or the needle, having pierced a bronchial tube, facilitated emptying the sack. I am inclined, though, to think that the syringe got away all there was, as this corresponded with the previous physical signs.

2414 East 55th Street.



## THE FATE OF IODIN, IODIDS AND IODATES IN THE BODY

By TORALD SOLLMANN

(From the Laboratory of Pharmacology of the School of Medicine of Western Reserve University, Cleveland)

It is well known that most of the compounds of iodine are excreted in the urine mainly as iodide, and that they circulate in the blood and tissues mainly in this form. Since the systemic effects of all iodine compounds are essentially similar; since they all, for instance, are capable of producing iodism, it is natural to suppose that the effects are produced by the iodide ion. This view, however, is not universally accepted. It has been held by some that iodides may liberate elementary iodine, at least in certain situations and under special conditions. The affinity of the free iodine for proteins, phenols, fats, etc., would then furnish a great variety of reactions. I have not, however, encountered any direct evidence of the liberation of elementary iodine in the tissues; nor any detailed or convincing analysis of the conditions under which this could occur.

Again, there is a rather prevalent opinion that the effects of the various iodine compounds differ at least quantitatively; especially, that there are important differences in the therapeutic efficiency, and in the tendency to produce the phenomena of iodism. Such claims of high therapeutic value with relative freedom from side-actions are often made by interested manufacturers of special products, on the sole "evidence" of the most superficial type of clinical impressionism. I am not acquainted with any instance in which such a difference has been established by adequate observation or experimentation. On the other hand, there is no conclusive evidence against these assertions.

It is possible to imagine several ways in which the effects of iodine compounds would differ in detail, even though they eventually circulate as iodide. Such possibilities, however, should not be accepted until they have been investigated. One of these possibilities, the different distribution of the compounds before their conversion into iodide, was studied by McLean<sup>1</sup>. Another possibility is the liberation of elementary iodine, previously mentioned. This could be imagined especially for the administration of elementary iodine. For instance, it is conceivable that the alkalinity of the body would change the iodine into iodide and iodate or hypiodate. If such a

<sup>1</sup>F. C. McLean, *J. Amer. Med. Assoc.*, 63:1382, 1914; *Arch. Int. Med.*, 15:82, 1915.

mixture were actually formed, and if it encountered free acid anywhere in the body, free iodine would be regenerated, which would then attach itself directly to the proteins, fats, etc.

Iodine could also be conceived as being liberated in acid reaction, from iodids in the presence of nitrites, and from iodates in the presence of sulphocyanids.

The following investigations had for their immediate object to determine whether the above reactions could occur under the conditions of the body; specifically, to answer the questions (1) whether the administration of elementary iodine can result in the appearance of iodid and iodate in the blood or tissues; and (2) whether elementary iodine can be liberated from iodid and iodate, combined or separately, with the reaction (hydrogen-ion concentration) that is known to exist in the body.

The following results were found:

I. Tests depending on the liberation of small quantities of iodine cannot be applied to protein-containing fluids, or to urine, since considerable iodine is immediately bound by the aromatic radicals. Under the conditions used, the amount of iodine bound by serum was about 1:3000. Larger quantities of iodine would, of course, be revealed; but the sensitiveness of the test is only about 1/50 to 1/30 of that in watery solution.

II. The disturbing factor of proteins may be removed by dialyzing through parchment or collodion. With dilute solutions, the dialysis should last two hours. This method is applicable, with sufficient delicacy, to iodids and iodates, and if collodion tubes are used, also to free iodine.

III. By the use of the dialysis method it was shown that neither iodid nor iodate undergo any change in serum. Free iodine is promptly bound, with the formation of iodid, but no iodate is formed, even in the presence of alkali, so that subsequent acidulation does not liberate iodine (unless, of course, more iodine has been added than can be disposed of by the serum).

The statements hold also for other proteins, urine and phenol.

IV. Large doses of free iodine, administered by stomach, exist in the blood solely as iodid. The addition of acid to the blood does not regenerate iodine.

V. No iodine is liberated from iodid-iodate or iodid-nitrite, or iodate-sulphocyanide mixtures, until the acidity surpasses  $H_p=4.49$ . It is therefore impossible that iodine should be liberated



from iodid under any conditions existing in the body (excepting solely the gastric juice).

On the other hand, the alkalinity of the body is not sufficient to bind any noticeable quantity of free iodine—even in the absence of proteins and aromatic groups.

The questions that were proposed are therefore answered in the negative:

(1) The blood, after the administration of free iodine, does not liberate iodine on acidulation, because the iodine is bound through the protein, and not through the alkali.

(2) Free iodine cannot be liberated in the body, since all the conceivable reactions for the liberation of iodine from its compounds require much higher hydrogen-ion concentrations than exist anywhere in the body.

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**New Policy of National Investigation Bureau, Inc., "Adjusters for the Insured," under Accident and Health Policies.**—On January 1, 1917, there will be important changes in the policy of the National Investigation Bureau, which Dr. W. Edward Magruder has been conducting as a "mediation" bureau since the incorporation of his business in March, 1914.

A recent canvass of agents and physicians in various parts of the country has led to the conclusion that they have been handicapped in their efforts at having claimants, whom they have encountered, refer their claims to the Bureau for "mediation," because the public does not seem to understand "mediation" as applied to insurance claims, and thinks this bureau is a creation of the accident companies and conducted exclusively in their interest.

Many accident companies have, in like manner, considered "mediation" as thoroughly impractical when applied to insurance claims and particularly so when undertaken by an independent bureau. Others maintain that the plan is about as Utopian as that of "enforced peace between the nations of the world."

This bureau will have the distinction of having inaugurated the first adjusting service which makes "expert advice upon claims available to policyholders."

There is apparently a definite field for the representation of policyholders, or the innocuous prospecting in the "mediation" zone in the last few years should not have aroused active opposition from any of the accident companies.

The bureau's specialty will be:

THE ADJUSTMENT OF CLAIMS ALL OVER THE UNITED STATES FOR POLICYHOLDERS UNDER THEIR ACCIDENT AND HEALTH POLICIES, GIVING THEM THEIR "DAY IN COURT" WHEN NECESSARY TO PROTECT THEIR RIGHTS.

The *particular* specialty of the new Bureau will be the adjustment of important death claims for the beneficiaries of policyholders.

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## RECENT ADVANCES IN GYNECOLOGY AND OBSTETRICS

By WILLIAM D. FULLERTON, M. D., Cleveland

### Monsters

A child born with a deformity so marked that it interferes with the general or local development of the body is called a monster—DeLee. Monsters often die in the early formative stage, as emphasized by Mall, and this may be proved by examination of the aborted ova. When born alive they usually die within a few hours or days, being incapable of extra uterine existence.

The frequency of monsters being the cause of abortion is much under-estimated and has been found by Mall to be accountable for at least one-third of all early spontaneous abortions. Considering the fact that foetal death from one or another cause almost always precedes early abortion, and that in such cases abortion when threatened is eventually inevitable, and that one-third of all abortions are due to monster formation, which, if not incompatible with further development, would result in the birth of physically abnormal children, a grave question arises as to how far we are justified in attempting to prevent early threatened abortions.

External agencies are to be seriously considered in the etiology of monsters. Heredity is a factor, since we sometimes see the same abnormality in several generations, with frequently the skipping of a generation and later reversion to type. The cause for repetition of such conditions is not understood, but since in the ova or sperm the cause is inherent, it is termed germinal. Bardeen has shown that sperm from a frog exposed to the X-ray, by which it is in some way damaged, gives rise frequently to monsters. Injury to the abdomen or uterus, disease of the amnion and chorion, abnormal implantations, as in the tube, changes in the ova during the blastula or morula stage, as well as thermic and chemical changes, may account for the condition. Sodium, potassium, magnesium, etc., having a selective action on various cells of the morula, as well as circulating toxins in the maternal blood stream, will produce monsters experimentally.

Directly the mental state of the mother has no influence on the development of the child, but worry, shock, etc., may produce vascular and nutritional changes in the endometrium which directly affect the ovum. Amniotic adhesions, Mall believes, are secondary



rather than primary causes of foetal deformity. Syphilis must be recognized as a secondary cause of abnormal formation.

There are two classes of monsters, single and double, of the single monster we distinguish three general varieties:

1. *Monstra per defectum*—When all or part of an organ is missing.
2. *Monstra per fabricam alienam*—When an organ is imperfectly formed or displaced.
3. *Monstra per excessum*—Where an organ is enlarged or duplicated.

Double monsters are classified by Foerster as follows:

1. *Terata Katadidyma*—Duplication from head downwards, there being one pelvis and two legs and two trunks separated or fused.
2. *Terata Anadidyma*—Duplication from below upward where the most complete is that type with two separate bodies, the heads of which are joined.
3. *Terata Kata-Anadidyma*—Duplication being both from below and above, with a broad or narrow bond of union joining homologous portions of the two individuals and the portions joined, giving rise to the term applied to the monster as sternopagus, xiphopagus, pygopagus craniopagus, etc.

The most common of the single monsters are the *monstra per defectum* and are due to absence of closure of the medullary canal, due to primary defective development of this part, early hydrocephalus or hydrorachis, or to adhesion of the delicate, newly-formed medullary canal to the amnion. Deformities resulting from such conditions are termed craniorachischisis. If the splitting involve only the cerebral vertebrae we have cranioschisis, or only the spine, rachischisis. If only the bony arch is absent we have meningocele, hernia cerebri, hernia spinalis or spina bifida.

A brain mass uncovered by skull is called acrania; when no brain is present—anencephalus. When the skull is closed but small it is called microcephalus.

The failure of the branchial cleft to close properly give deformities of the neck and face, the simplest and most common being hair-lip.

Incomplete closure of the lateral plates of the body walls result in umbilical and ventral herniae, exstrophy of bladder, etc., all grouped under the term thoracogastroschisis.

The second variety of single monsters, when an organ is imperfectly formed or misplaced, are mainly cases of situs inversus viscerum, abnormal position of the kidneys, testicles, colon, and congenital luxations.

Double monsters come from one ova and are developed from a single germinal vesicle. Two germinal spots, two primitive streaks or two medullary grooves may be formed, or, later in growth one or the other end of the germinating zone may be duplicated. Separating the blastomeres in the blastula stage either mechanically or chemically has given rise experimentally to double monsters. If two separate embryonal areas appear it is possible that homologous twins develop, or, if the areas are fused, united twins result. If the two embryonal areas are unequal in size, inequality in the twins result; one may be parasitic to, or even included with the other, and included foetus and teratomata result. Fused primitive streaks may completely divide and develop equally, giving rise to homologous twins. If unequal division of fused primitive streaks takes place the heart of the stronger overcomes that of the weaker, which shrinks up into an acardiacus, representing head, trunk or lower extremities depending on what embryonal cells were left for its development.

Clinically single monsters occur more frequently than double and they more often give rise to dystocia because they develop further than do the double monsters. Hydrocephalus, anencephalus, hernias, accumulation of fluid within the body such as ascitis, bladder, etc., and cystic kidneys are the most common types met with.

Double monsters are rarely if ever diagnosed before labor, whereas single monstrosities may be recognized, most commonly hydrocephalus and anencephalus. During labor with sufficient cervical dilatation to palpate the presenting part, diagnosis of deformities, if palpable, may be frequently made.

On account of the frequent prematurity delivery of monsters is not so difficult as might be imagined. Double monsters are usually expelled at an earlier period than are single, and where each of the former is fairly well formed the connecting bond stretches easily



and renders labor comparatively simple. Where serious dystocia is encountered delivery may be most difficult.

Breech presentation is preferable to cephalic, as the legs afford traction points. Absolutely no consideration should be shown the child considering the enormous mortality in the first few days, or worse yet, the further existence of such beings. Any great enlargement due to fluid inclusion should be reduced by puncture from below, after which delivery is simple. Caesarean section should practically never be done and is only indicated when extraction of the mutilated monster is judged impossible from below.

A brief summary and photographs of the following case may be of interest.

An educated white woman 31 years of age was first seen when five months pregnant. She had been married six years, pregnant once before five years ago, having a criminal abortion done at the third month. No ill results followed.

A physical and pelvic examination revealed nothing abnormal. Foetal small parts were felt and the heart heard distinctly. On questioning it was learned that she had had a small sore on the vulva about four years ago. This had healed slowly and she had shortly afterward a slightly sore throat for a few weeks. At this time she had started medicine by mouth "for her blood" and continued taking it for six months.

Although no symptoms of lues were present her Wassermann was triple positive. She was sent to a dermatologist who, during the next five weeks gave her five intravenous injections of salvarsan and twenty injections of biniodid of mercury intramuscularly. Her Wassermann became negative, but she was to continue with mercury intramuscularly.

Two weeks after the Wassermann became negative, her pregnancy then being of about seven months duration, she complained of a profuse, watery leucorrhoea which was so marked that with abdominal palpation it indicated a loss of amniotic fluid. Shortly after she went into labor, which was of seven hours' duration. When examined late in labor no head could be felt from above, although breech and small parts were distinctly palpable. Vaginal examination revealed a small, soft, spongy mass surrounded by more resistant tissue and bounded above by sharp, hard points on either side, which proved to be the posterior edges of the open upper thoracic vertebrae.

The mass was identified as a head by the presence of an ear.

The head lay in the occiput posterior position and was directed downward and backward into the hollow of the sacrum. With a



few drops of chloroform the outlet was dilated to admit three fingers, which were introduced posteriorly to the head, which was elevated and with the next contraction or so the foetus was easily delivered.



The foetus was a female 35 cm. long, weighing 1050 gms. Excepting the head and gross deformity seen posteriorly the body was normal. Meconium passed from the anus. No foetal heart could



be felt. Stimulation by pressure on the contents of the open spinal canal gave pronounced, localized, distant, muscular contraction. The head was very small in proportion to the body. The eyes were large and protruded through open lids. The nose was broad and

flat. There was no forehead, the skull dropping downward posteriorly. The entire occiput was uncovered except for a thin, transparent membrane. All of the cervical and thoracic and two of the lumbar vertebrae were open posteriorly, exposing a flattened crescentic cord from which the spinal nerves could be seen extending.

The placenta separated normally and was very large, as it weighed 450 gms. or about  $\frac{2}{5}$  the weight of the child, whereas  $\frac{1}{8}$  to  $\frac{1}{10}$  is the normal ratio. This disproportion is very common with syphilis and microscopically the placenta showed unquestionable evidence of the disease.

The specimen is an excellent example of craniorachischisis.

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**Sciatica.**—Charles Rosenheck and Harry Finkelstein, Chicago (*Journal A. M. A.*, Dec. 30, 1916), have tested the treatment of sciatica by perineural infiltrations and epidural injections. They classify sciaticas as follows: "Class 1—Symptomatic sciatica; due to recognizable infections, toxemias, constitutional diseases, exposure to sudden temperature changes, pelvic disturbances and organic nervous diseases. Class 2—Orthopedica sciatica; an arbitrary division due to recognizable orthopedic conditions, namely, spondylitis deformans, lumbosacral, sacroiliac subluxations and disease and infections of the hip joint. Class 3—Sciatica neuritis; fortunately in the minority, and not due to any recognizable condition, as in Classes 1 and 2." Comparing their results with those reported, they found that approximately 20 per cent of their patients were cured or improved, as against 60 to 65 per cent of other observers. They are at a loss to explain this striking difference except in difference of material treated or by the haphazard injections of patients with gluteal pain—not necessarily sciatic in origin.

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**Sphenoid Cells.**—S. Iglauer, Cincinnati (*Journal A. M. A.*, Dec. 23, 1916), recommends the oblique method of taking roentgenograms of the sphenoid sinuses. On account of the depth in the head of these cavities other methods are not often sufficiently distinct, or are superimposed on each other or by other cavities. The method introduced by Rhese is the one advised as best. The patient lies on his side on the table with his face in contact with the photographic plate (the position is that of a person sleeping on his side, his arm under his head, representing the plate). The head is in contact with the plate at three points, namely, the malar eminence, the outer edge of the supraorbital margin, and the tip of the nose. The central rays go through the upper edge of the auricle and are thus directed obliquely through the head but vertically on the plate. Figures are given showing the overlapping, etc., from this point of view and statements as to the advantages of this projection. The conclusions are as follows: "The usual methods of roentgenography of the sphenoid and ethmoid cells give uncertain results. The oblique method is the most valuable and accurate. Both the oblique and sagittal method should be employed. The roentgenogram is a great aid to diagnosis and should be combined with careful clinical study."

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## REPORT OF A CASE OF ETHMOIDITIS IN A CHILD, COMPLICATED BY UNILATERAL EXOPHTHALMUS\*

By D. A. PRENDERGAST, M. D., Cleveland

Sinus disease is so rare in childhood, especially an ethmoiditis complicated by orbital symptoms, I thought a report of the following case would be of interest.

The patient was a boy, age 6 years. The family history was negative. He has always been in good health. The present illness began about two weeks before I saw him. At that time he received a severe blow on the nose, followed by swelling, edema and ecchymosis over the site of the nasal bones. His vision was at no time impaired. Since the time of injury the mother states that he has been complaining of nasal obstruction, headaches, occasional attacks of vertigo, and a discharge from the left side of the nose.

The boy attended school, but the parents noticed that he was languid and complained of occasional pain over the right temporal region. Two weeks after the injury he suffered from a convulsion, followed by edema about the left eye, and severe frontal and occipital headaches.

The examination at this time showed marked edema of the soft parts of the left eye. There was a definite exophthalmos with a widening of the palpable fissure. The bulbar conjunctiva showed little or no edema. The left pupil was dilated but reacted to light and accommodation. The intra-ocular tension was slightly increased. Judging from the finger it was about a plus 1. With the ophthalmoscope the media was found to be just a little hazy. The disc very slightly edematous. The fundus was otherwise negative. The examination of the nose showed thick, creamy pus draining from the middle meatus. The middle turbinate was swollen and congested. The temperature was 101.5.

Upon irrigation, the antrum was found to be filled with pus. After irrigation of the antrum, pus was still present, draining from the ethmoid region. It was then decided to drain the ethmoid. Under a general anesthetic the anterior ethmoid cells were broken into with a Mosher curette. The cells were found filled with pus. The posterior ethmoid cells were also gently curetted, care being taken to preserve the middle turbinate.

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\*Read before the Ophthalmological and Oto-Laryngological Section of the Academy of Medicine of Cleveland, November 24, 1916.

The results of the operation were very satisfactory. The temperature dropped to normal within 12 hours after operation. The headaches disappeared on the following day. The edema of the left eye and exophthalmos receded in three days. At the present time, one month after operation, the patient is enjoying good health.

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**Nose, Throat and Ear Infections.**—Hill Hastings, Los Angeles (*Journal A. M. A.*, Dec. 2, 1916), in his chairman's address before the Section on Laryngology at the late meeting of the American Medical Association, took up the subject of the care and preventive treatment of colds or diseases of the ear, nose and throat, and the responsibility of the medical profession to the public in regard to these disorders. The public is not sufficiently aware, he says, of certain preventive measures which may be summarized as follows: 1. A daily cold bath. If the cold tub bath produces too much shock, a cold sponge bath of the face, neck and shoulders may be substituted. 2. Fresh circulating air in the bedchamber. While the sleeping porch accomplishes this, the fad for outdoor sleeping may be overdone, and he especially condemns the attempt to harden children susceptible to bronchitis and laryngitis in this way. Another preventive measure against colds is the avoidance of plunges, especially during epidemics of colds, where the swimming tanks, etc., are contaminated by the nasal secretions. 4. Care in handling the nasal secretions. 5. The use of vaccines to prevent colds, though much lauded, has not proved a success and therefore should be avoided. A cold or sore throat may be a simple affair, but its complication or consequences may be very serious. Removal of tonsils and adenoids in children is also advised, and more prompt incision of the drum membrane when middle ear abscess is formed. A number of measures that have been more or less in vogue are condemned, such as certain forms of nasal douche, blowing out the nasal secretion with too much force, and going in swimming with a cold in the head.

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**Arsenobenzol by Mouth.**—J. H. Schamberg, J. A. Kolmer and G. W. Raiziss, Philadelphia (*Journal A. M. A.*, Dec. 23, 1916), after referring to the article published by the first two named authorities in which they demonstrated that salvarsan could be administered orally to the lower animals and in doses up to 0.6 grain to the human subject without producing toxic symptoms, reported further experiments with their preparation corresponding to salvarsan (arsenobenzol). They find that absorption takes place when it is used in experiments on animals which have been infected with trypanosomes (*T. equiperdum*, the organism of dourine) and in a general way they found that about from one-ninth to one-tenth of the dose was required in solution by mouth to produce an equivalent effect to that when given intravenously. Arsenobenzol by mouth, however, exerts only about 40 or 50 per cent of the trypanocidal effect produced by neosalvarsan intravenously. Their experiments also demonstrate that arsenobenzol can be administered in capsule form over long periods of time without harmful results. Clinically they found that the drug may be given in doses of 30 mg. three times a day for many weeks without producing disturbing symptoms except mild digestive distress and this only in a relatively small proportion of cases. Given by mouth it is capable of producing a curative influence on syphilitic lesions, but much less vigorous than when given intravenously. They, therefore, do not recommend it for routine treatment, as there are much more efficient avenues of administration. It should be used only in cases in which for some reason it cannot be given intravenously.

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## THE PROGRESS IN PEDIATRICS

By HUBERT C. KING, M. D., Cleveland

*Carcinoma of the Uterus in a Child. Brit. Jour. Child Dis., 1916, XIII, 266.*

Adams reports a most remarkable case of a carcinoma of the uterus occurring in a child two and a half years of age. The child was the first born of healthy parents. It appeared normal and was well nourished. For three weeks before admission there had been a gradually increasing bloody vaginal discharge. The mother had noticed a fullness in the lower abdomen. A tumor mass was palpable in the hypogastrium, lying between the bladder and rectum. At operation a tumor occupying the position of the uterus was found. It was round and cystic in character. It was very adherent and complete removal was impossible. The vaginal hemorrhage reappeared, the child failed and died in two months. At autopsy a large mass was found filling the entire pelvis, representing the uterus and adherent to the rectum and bladder. Histologically it proved to be a carcinoma originating from the corpus uteri.

*The Bacteriology of the Urine in Healthy Children and Those Suffering from Extra-Urinary Infections.—Am. Jour. Dis. Child., October, 1916.*

Beeler and Helmholz report their bacteriological findings of catheterized specimens of urine taken from thirty girl infants and from thirty-one girls over two years of age. Their conclusions are: (1) that organisms of the colon bacillus group are not normal inhabitants of the female urethra; (2) that in extra-urinary infections occurring in the first two years of life the colon group of bacilli are frequently found in the urethra (one-third of the cases); (3) that in girls over two years of age the urine is almost free of organisms, and in their series entirely free from bacilli of the colon group.

The reason that the number of bacteria found in the urine of children under two years was considerably larger than in those over two years may be explained by the fact that in the older children the urethral orifice is more easily cleansed than in the infant and it is easier to introduce the catheter directly into the urethral orifice.

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## REVIEW OF THE PROGRESS OF MEDICINE

By HAROLD FEIL, M. D., Cleveland

“An Experimental Study of Lavage in Acute Carbolic Acid Poisoning.”—David I. Macht, *Bulletin of the Johns Hopkins Hospital*, Vol. XXVI, 1915, 93.

Because of the great frequency of the occurrence of carbolic poisoning it has been thought worth while to review again the work of Dr. Macht which was published in 1915. The usual practice has been to use various solutions in gastric lavage—albumen, syrup of lime, solutions of iodine or potassium permanganate, milk, various dilutions of alcohol and sodium sulphate.

Sollmann, Hanzlik and Pilcher, in 1910, observed that, “when phenol is placed in the alimentary canal the absorption is at first very rapid, but is quickly checked and soon practically arrested”; and “When phenol is placed in the stomach, only traces pass into the intestine; a large proportion could be removed by gastric lavage, even several hours after the phenol was taken.”

Macht discusses the use of these various antidotes and concludes that, “Our experience with them (excepting alcohol and sodium phosphate) was very unsatisfactory.” Alcohol has been widely advised in phenol poisoning—but the results have varied in the hands of observers. From his experimental work on dogs and cats it was found that the use of alcohol as an antidote hastened death in animals which had been given lethal doses of carbolic acid, but it was also observed that animals which had been rendered toxic with alcohol either withstood the action of phenol, or showed less marked toxic results.

Falck is quoted as reporting ten cases where phenol was taken in alcoholic beverages—of these nine died. Of seventeen people who took carbolic acid alone—thirteen died.

Strong solutions of sodium sulphate (Glauber's salts) were used by Macht in his work and he was able to save the animals if lavage was promptly given. In later lavage sodium sulphate saved a number of his animals.

Macht concludes that:

1. The efficiency of lavage in phenol poisoning depends on the quantity of the poison taken, on the time after poisoning that the lavage is begun, and on the solution used for washing the stomach.



2. A strong solution of sodium sulphate appears to be the most useful for the purpose; next in efficiency comes plain water.

3. The influence of alcohol in phenol poisoning depends on the time of its administration. An animal that is previously intoxicated with alcohol can withstand better the effects of phenol taken afterwards. On the other hand, alcohol administered to an animal after poisoning with phenol will aggravate the symptoms and hasten death.

4. The use of alcohol in carbolic-acid poisoning should therefore be strongly discouraged.

Sodium sulphate probably does not act as a chemical antidote, but acts by delaying absorption and through its purgative action. Magnesium sulphate has been suggested, but its depressant effects would contraindicate its use.

The wider use of strong solutions of sodium sulphate in lavage should be urged—stock solutions should be kept in the accident rooms of all hospitals.

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**Effects of Acids.**—H. E. Hirschfelder, Minneapolis (*Journal A. M. A.*, Dec. 23, 1916), has repeated the experiments of M. H. Fischer on which he based his theory of edema, and finds that his doctrines as to the specific actions of diuretic and purgative salts on the swelling of colloids, if true, apply to the sulphates alone, and so far as they apply to the action of acetates, citrates, tartrates and phosphates, must be susceptible of some other explanation. Even if one were to grant the correctness of Fischer's theories it would not necessarily apply in the same way to interstitial edema.

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**Angioma Serpiginosum.**—A. W. Stillians, Chicago (*Journal A. M. A.*, Dec. 2, 1916), reports a case of angioma serpiginosum, a peculiar form of infected nevoid disease first described by Jonathan Hutchinson in 1890. Since the five cases reported by Hutchinson, only twenty-one others have been described. The characteristic lesion is a punctate telangiectasis from a size just visible up to that of a pinhead, level with the surface or very slightly elevated, of velvety feeling and bright red color, occurring in round, oval or linear groups, which progress in a serpiginous manner with the formation of new lesions on their borders and, by coalescing, form gyrate figures. It occurs at any age from infancy to the sixtieth year. It spreads slowly or rapidly without marked sensory symptoms, and is more frequent in females than in males. No cause has been discovered. The diagnosis is easy. No other disease presents such brilliant lesions on a normal or only slightly flushed skin, spreading at one border and healing behind. Other telangiectatic cases secondary to other skin diseases always show enough of the underlying pathologic condition to explain them. The prognosis would seem to be very bad as to cure, judging from the few case reports, but Stillians thinks that modern methods successful in the treatment of vascular nevi might afford a fair prospect of cure. The quartz lamp pressed on the lesion is the first mentioned, and because the use of radium and the Roentgen ray are also productive of excellent results in nevi they are also spoken. Carbon dioxide snow, either alone or in combination, ought to be of value.

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## EDITORIAL

### CARE OF THE FEEBLE MINDED

Eight thousand feeble-minded persons are at large in Ohio, according to Dr. E. J. Emerick, Superintendent of the Ohio Institution for Feeble Minded.

They are incapable of getting on without permanent care and guidance, yet left free to perpetuate the defective stock.



For every feeble minded person in the State who is receiving proper care in an institution there are at least four more who ought to have such care and are not getting it.

The problem of caring for these unfortunates is one to be taken up at the coming session of the General Assembly of the State.

The program to be presented to the legislators calls for the building of additional buildings for defectives now unable to gain admission to the State institution; buildings, equipment and staff to enable the Bureau of Juvenile Research to conduct necessary clinical examinations and field work and the development of a comprehensive plan for the ultimate prevention of feeble-mindedness.

Governor-elect Cox is in favor of a liberal appropriation for the enlargement of the State institution. In a recent interview, he said:

"I have come to the conclusion there should be immediate appropriations to grapple with the feeble minded problem. Through talking with numerous probate judges and experts I am convinced that the situation is little less than appalling. We must tackle the problem quickly because the number of feeble minded will constantly increase as long as feeble minded adults are allowed to mingle in society."

The problem is one in which medical men in Cleveland and throughout the State are deeply interested and the session of the Legislature will be closely followed.

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### Health Appropriations for the City of Cleveland the Same

Appropriations made by the City Council for the Division of Health in 1917 are practically the same as for the past year, with the exception of a ten per cent increase in salary for members of the sanitary squad.

The establishment of clinics for the diagnosis of venereal disease, in connection with the city's seven tuberculosis dispensaries, is the only new activity planned for the coming year.

Through co-operation with the civic committee of the Federated Churches, the Division of Health has arranged for the printing of several thousand signs warning sufferers from venereal diseases to beware of fake "specialists" and urging them to call at one of the various dispensaries for free and confidential advice regarding

the treatment of their disease. Victims will be referred to physicians when they visit the dispensaries.

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### **The Trudeau Foundation**

An endowment fund has been created as a memorial to the late Dr. Edward L. Trudeau to perpetuate his name and to continue the scientific investigations that were a life-long interest of the American pioneer in tuberculosis research.

The income is to be devoted to maintaining laboratories and carrying on research into the nature, causes and treatment of tuberculosis; in maintaining regular courses of instruction for physicians and others and to offer young physicians the opportunity to engage in research work while undergoing treatment for the disease.

Two courses of six weeks duration are arranged for each year, in January and June, for physicians who desire to study tuberculosis intensively and to perfect themselves in the diagnosis and treatment of the disease.

A limited number of Fellowships will be granted each year to qualified workers, preferably those who are or who may have been under treatment for tuberculosis.

The Trustees of the Trudeau Sanatorium are to administer the fund, with the aid of an advisory council of investigators and teachers. Dr. John H. Lowman, of Cleveland, is a member of this council.

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### **Medical Inspections**

Provisions of the New York ordinance, requiring employees of restaurants, bakeshops and other places where food is sold to have health certificates showing them to be free from communicable disease, may be incorporated in the new sanitary code to be submitted to the City Council shortly.

A provision requiring manufacturers of proprietary medicines to submit their formulas to the Division of Health is also under consideration.

The proposed new code is being drafted by the Housing and Sanitation Committee of the Chamber of Commerce.

R. H. B., JR.

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## DEPARTMENT OF THERAPEUTICS

Conducted by J. B. McGEE, M. D., Cleveland

**Deficiency Diseases:** In the November number of *American Medicine*, Morris Stark presents some studies in the deficiency diseases of childhood and infancy. Three important factors tend to show why infancy and childhood are particularly vulnerable to the deficiency phenomena of metabolism: (1) The uniformity of the infant's diet, the greater part of the first year. (2) The slight variability of the diet even up to an age of two or three years. (3) The peculiar and not infrequent tendencies of older children to refuse certain important articles of food and to favor others less adapted to their requirements. As to the therapeutic principles which underlie the management of these cases, as regards scurvy, there is but little to add to what is already known in relation to its successful treatment. We fully recognize the causative factors, and have no further doubt as to the value of fresh extracts, especially fruit juices in the treatment. There never was any question as to the frank cases with typical symptomatology which were seen at five or six months but the more recent researches have confirmed the already known facts that an early scurvy, characterized by a deficiency in growth and nutrition without other discernible symptoms is very common, and can be offset by the use of antiscorbutics as early as in the first months of life. What are the antiscorbutics? Vitamine-containing substances possessing the same general chemico-physical properties as substances containing antiberiberi vitamine. Therapeutically and physiologically, in the light of our present knowledge of these substances, there may be a difference between the various vitamines. For example, Hess claims no therapeutic result from the use of autolyzed yeast—a substance containing an enormous amount of the antiberiberi vitamine—in the treatment of his cases. On the other hand Allan Brown says that autolyzed yeast has decided antiscorbutic value if used in sufficient dosage. In judging the value of vitamine therapy in rachitis one must bear in mind that we are dealing with a deficiency of metabolism very much more chronic than in the case of scurvy or beriberi, and therefore the symptom complex is much slower in developing than in the other conditions mentioned. He has no hesitancy in claiming decided and prompt benefit as a result of vitamine therapy in eliminating the demonstrable active processes of rachitis such as anorexia, anemia, headsweats, increasing deformity and electric hyper-irritability. The first duty lies in regulating maternal diet during pregnancy as well as during lactation. A corrected diet for the mother, or else some form of vitamine perhaps, in the form of autolyzed yeast may be directly administered to the nursling. The important vitamine of orange juice should never be neglected, even at one month, as a prophylaxis against scurvy or perhaps even rickets. Egg yolk in increasing doses as early as the sixth month is an important vitamine substance.

**Protective or Destructive:** The *New York Medical Journal* for Dec. 9, states that one of the important problems before the physician day after day, is to determine whether a phenomenon of disease indicates that the body is being injured or protected thereby. It used to be supposed that a rise of temperature was always injurious, and in the days when that theory held sway every means was used to bring the temperature back to normal. At present the idea is advanced, if not substantiated, that fever is indicative of the attempt of the body to destroy or inhibit, by high temperature, the growth of bacteria, and such being the case, the hyperpyrexia should be let alone unless it becomes too great. We know, however, that the body temperature may become elevated without bacterial invasion, so that if sometimes a blessing, more or less in disguise, high temperature as in heatstroke, may also be a curse. The rapid heart, which accompanies infection would seem always to be a part of the general protective reaction, yet there are still those who in the presence of such a

symptom, invariably resort to aconite or veratrum. We know that diarrhea is a protective phenomena, but is it always so? Because the measuring of blood pressure is a new procedure, a pressure above the usual has seemed a sign of menace, when in many instances it is merely a sign of compensation for incurable faults, and the patient is worse off if attempts are made to decrease the pressure. Practically all symptomatic treatment—and most medicinal treatment is symptomatic—depends for its value on this determination of whether a function is increased or decreased, to the advantage of the patient, and hence whether we are to stimulate or check the activity of an organ. It would seem that much useful experimenting might be carried out along these lines for establishing better rules of guidance in such important matters.

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**Intestinal Stasis:** Martin J. Synnot in the *Medical Record* for Dec. 16, writes concerning the fallacy of intestinal stasis. It must not be forgotten that the stomach and intestines functionate perfectly well, even when the X-ray shows what appear to be marked abnormalities in position. So-called remodeling operations on the abdominal operations for the relief of such X-ray abnormalities will, he believes, soon be given up. Attempt at such remodeling of the human body has not given satisfactory results. He believes radical procedures of this nature are only justifiable in desperate cases as a last resort, where other remedial measures have failed. At the Massachusetts General Hospital in Boston, bismuth residue in the intestines up to seventy-two hours is considered perfectly normal. He states that the best thing Lane has done is that he has called attention so forcibly to the value of Russian oil in treating constipation. As to medical stasis as ordinarily understood, he is sure, in many, if not the vast majority of cases, it seldom exists as anything else than constipation. The treatment of the symptoms of autointoxication sometimes met with in severe constipation, should be by diet, exercises and medical treatment without recourse to surgery. The study of intestinal stasis is, he thinks a phase of medical evolution brought about by an honest effort of sincere but mistaken men to solve the problems of old age and to find a remedy for chronic incurable ailments. We occasionally see cases of stasis of the pronounced neurasthenic type which are undoubtedly chemical diseases due to auto-intoxication from internal glandular starvation, or excess. For some of these patients gland extract therapy holds out hope of benefit. Only surgery can of course relieve a mechanical obstruction.

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**Acetanilid:** Samuel E. Earp, in the December number of the *Indianapolis Medical Journal*, treats of some virtues of acetanilid—how to use it. But few prescriptions at the present time contain acetanilid unless it be a combination made by some manufacturing pharmaceutical house. Acetanilid is a drug that has been maligned. It is evidently as safe as many of the coaltar preparations, or drugs closely allied to them. We are told of its dangers, but mainly drugs which show a greater toxicity are used incautiously—in fact with freedom. Such remedial agents are fraught with greater danger when given or taken by the inexperienced. Statistics show that now and then a death occurs from the use of acetanilid. The great mortality, if such there has been, seems to have been when the laity used it indiscriminately and he calls attention to the fact that it is quite possible that some physicians have formed an opinion from a knowledge of its misuse by the laity. He is under the impression that few physicians have had an accident from acetanilid, yet there is an impression that the dangers from this agent forbid its use. He states that it is a good remedy when properly used. Less dangerous than hundreds of other agents now used. It gives good yet positive results. It acts quickly. It is not difficult to become acquainted with its indications and contraindications. It is too good a remedy to set aside. He quotes the *American Journal of Clinical Medicine* as to its value, which states that acetanilid having passed through the period of ex-



travagant laudation, seems now to be falling into the state of complete desuetude that usually follows. Nevertheless, it is too powerful and too valuable a remedy to be allowed to go into the discard. Its power of promptly and tremendously reducing febrile temperature fits it for many cases where nothing else quite takes its place. In sunstroke and in temperature exceeding 105 degrees in the course of any malady, the fever heat is the direct cause of death, and this temperature must be brought down to a safe point very quickly. For this, with the exception of direct application of cold, we have no remedies equal to acetanilid. Like pilocarpin, acetanilid acts all at once, fully and decidedly, or not at all. Acetanilid, too, is the main ingredient of an infinite number of compounds or combinations used as analgesics. Doctor Earp does not use a large dose: four to six grains at suitable intervals he considers ample dosage.

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**Corpus Luteum:** In the *Journal A. M. A.* for Dec. 16, John Cooke Hirst presents a report on the control of the nausea and vomiting of pregnancy by intramuscular injections of corpus luteum extract. It was used in twenty-five consecutive cases taken without any attempt to choose the favorable or eliminate the unfavorable. It was successful in controlling the nausea, and vomiting in twenty-one of the twenty-five. In four it proved a complete failure and did not in any way check the vomiting. Of the successful cases two were of the pernicious type, in which the vomiting was so severe that the termination of pregnancy was seriously considered. In one of these fourteen doses were given (two daily 1 c.c. each) and in the other seventeen (also twice daily). In both, the vomiting was entirely controlled. The smallest number of doses in any successful case was four, and the largest number of doses was forty-two. The average number of doses required in successful cases was eleven. In the average case of nausea in which it amounts only to discomfort and the vomiting is limited to one or two morning attacks, the patient will usually respond to a dose of 1 c.c. every other day for five or six doses. Particularly is this true in the cases in which the nausea has begun to decline. In these cases the effect is almost immediate. In the more severe cases when nausea is constant and the patients are subject to frequent paroxysms of vomiting at any time during the day, the dose should be 1 c.c. daily for from twelve to fifteen doses. During the period of treatment, the patient's activity should be curtailed, and as much rest as possible is essential. In the pernicious cases he has given 1 c.c. twice daily, and would not hesitate to give more than this. These patients of course are confined to bed. These doses are average, and he would not hesitate to give two or more c.c. to a dose in severe cases, in which a decision as to the value of the method must be reached without delay. The site of the injection is prepared by cleansing with tincture of green soap and alcohol. He prefers the deltoid. The syringe used is glass and it and the needle are boiled and allowed to cool before the extract is drawn up from the ampule. Alcohol is not a safe antiseptic to prepare a syringe for injection of any animal extract. All injections are given deep, into the muscle, *never* subcutaneously. The material used is in ampules, containing the equivalent of  $2\frac{1}{2}$  grains of desiccated corpora lutea. In several hundred injections there has not been a single abscess. Not one of the patients aborted. While it is too much to claim in so complex a subject as the nausea of pregnancy that any single agent will prove specific, it seems justifiable to assert that this is an important factor in treating this condition.

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**Salvarsan.** B. Barker Beeson in the *Medical Review of Reviews* for December treats of certain reactions following the intravenous injection of salvarsan and neosalvarsan, their symptoms and treatment. Although Ehrlich's arsenical products have been in vogue for several years, our knowledge of them is by no means complete. Occasionally their administration is followed by alarming and even dangerous symptoms. Salvarsan seems to cause reactions more often than neosalvarsan, perhaps on account of its

larger arsenic content, 31%, as against 21% in the latter. Certain of the manifestations after an injection of either of the remedies seem to be due to a powerful vasodilator action of the arsenic with a consequent lowering of blood pressure. The most common of these is the so-called "nitroid crisis," a term created by Milian, of Paris. A "nitroid crisis" consists of marked flushing of the face, especially of the face and ears. When severe, it is accompanied by edema with swelling of the lips and tongue, and also by injection of the conjunctivae. Increased rapidity of the pulse and marked dyspnea is added to the picture; also severe pain in the chest and syncope ensues in severe cases. As its name would suggest, the "nitroid crisis" is very similar to what occurs when one inhales amyl nitrite. These crises usually occur during an injection, but sometimes not until the second or third day. When they are called secondary "nitroid crises." The fever noticed may be due to various causes, and nausea and vomiting are also seen after the use of these drugs. As to cutaneous manifestations urticaria has occurred most often in his experience. He gives suggestions as to care in the use of the injections and as to treatment states that as the most important symptoms of intolerance seem to be due to a marked vascular dilatation we would think of a vaso-constrictor in the treatment of such cases. The best one for this purpose is adrenalin chloride in 1/1000 solution. Its effect is very satisfactory, at times even brilliant. The minimum dose should be 1 c.c., equal to a milligram of a 1/1000 solution. As much as four milligrams has been given in divided doses. He believes that one-half or even one-fourth of this amount will suffice in most instances. In case of coma, give two to four milligrams within one or two hours. Adrenalin is best injected deeply into the muscles of the gluteal region. Subcutaneously its effect is more transitory. The intravenous route should be reserved for urgent cases as in serous apoplexy. He has found it especially efficacious against the "nitroid crisis," and also serous diarrhea. Adrenalin should be given ten minutes previous to the intravenous injection: pallor follows if the drug is exerting its effect, and is an index to the efficiency of the drug. He has found adrenalin of real value and heartily recommended it in these cases.

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**Tonsillitis:** In the December number of the *Therapeutic Gazette*, Nathan P. Stauffer presents the treatments and sequelae of tonsillitis. He divides the subject of treatment into four parts: (1) Incipient tonsillitis, (2) Active tonsillitis, (3) Preventive tonsillitis, (4) Complications of tonsillitis. In the incipient stage, if the patient will immediately go to bed where he will have absolute rest. Keep ice constantly in the mouth and cover the throat with an icebag, he will be properly started on the road to an early recovery. Calomel 1/10 grain doses dissolved in the mouth every hour for the first two days, with salts at night, with aspirin five grains or sodium salicylate five grains every three hours, he has found the most reliable remedies. Local treatment aids much in aborting the disease, and for this daily applications of nitrate of silver 60 grains to the ounce with 50 per cent Dobell's solution every hour as a gargle are the best antiseptics. In active tonsillitis he insists on the patient remaining in bed, because of a possible endocarditis. A dry ice collar is applied with frequent sponges with alcohol and oil of wintergreen rubs. Gargle every half hour with 50 per cent  $H_2O_2$ . Locally he paints the tonsils liberally with 60 grains to the ounce of nitrate of silver. He has seen symptoms decline, and convalescence quickly started, by this ideal remedy in the early stages of the disease. Guaiacol 25 to 50 per cent in olive oil is the next best remedy. This should be rubbed in the tonsil twice daily for several days. Sodium salicylate ten grains every three hours with water or lemonade, will relieve the headache and backache. For peritonsillar abscess the only relief is the early use of the knife. The proper practical treatment of tonsillitis should be prevention. It can be prevented by removing the cause; the adenoid and tonsil operation when indicated.

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## NEW AND NONOFFICIAL REMEDIES

**Mercurialized Serum—Mulford.**—The following dosage forms of mercurialized serum—Mulford, described in *New and Nonofficial Remedies*, 1916, p. 192.

**Mercurialized Serum—Mulford, No. 5-A.**—Each package contains one 8 Cc. graduated sterile glass syringe with sterile needle, containing the equivalent of 0.0055 Gm. (1/12) mercuric chloride.

**Mercurialized Serum—Mulford, No. 5-B.**—Each package contains one 8 Cc. graduated sterile glass syringes with sterile needle, each containing the equivalent of 0.011 Gm. (1/6 grain) mercuric chloride.

**Mercurialized Serum—Mulford., No. 6-A.**—Each package contains ten 8 Cc. graduated sterile glass syringe with sterile needle, containing the equivalent of 0.0055 Gm. (1/12 grain) mercuric chloride.

**Mercurialized Serum—Mulford, No. 6-B.**—Each package contains ten 8 Cc. graduated sterile glass syringes with sterile needle, each containing the equivalent of 0.011 Gm. (1/6 grain) mercuric chloride. H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1759).

**Pertussis Bacterin—Mulford.**—A pertussis bacillus vaccine (see N. N. R., 1916, p. 321). **Pertussis Bacterine—Mulford** is sold in packages of four syringes containing 50, 100, 200 and 400 million killed Bordet-Gengou bacilli. H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Dec. 16, 1916, p. 1851).

During December the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with *New and Nonofficial Remedies*:

**Merck & Company:**

Formin Tablets, 5 gr. and 7½ gr.

Veronal Tablets, 5 gr.

**H. K. Mulford Company:**

Pertussis Bacterin, Mulford.

**Schering & Glatz:**

Iocamfen.

Iocamfen Ampules.

**E. R. Squibb & Sons:**

Urease—Squibb.

**Non-proprietary articles:**

Acetylsalicylic Acid.

Neutral Solution of Chlorinated Soda.

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**Scurvy.**—From an experimental study of scurvy produced in guinea-pigs by milk and milk products, J. J. Moore and Leila Jackson, Chicago (*Journal A. M. A.*, Dec. 23, 1916), sum up their results as follows: "Scurvy has been produced experimentally in guinea-pigs by the exclusive diet of raw cow's milk. Pasteurized, boiled and skimmed cow's milk will cause a similar condition. A severe form of the disease has been produced in these animals by condensed milk, casein and water, and several proprietary infant foods. Raw cow's milk when added to oats was not found capable of preventing the onset of scurvy. In a few animals scurvy has developed when milk has been added to a general diet of green vegetables. The onset of symptoms in the individual animal is a very variable factor, some having a marked resistance and others succumbing more rapidly. From our results we find that the older animals are most resistant. From a comparison of our results with those of investigators using other animal species, it appears that a ration which may be entirely adequate in nutritive value for one species may be inadequate for another. While there is a marked individual variation toward diet in each species, the species variation is still greater."

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## The Academy of Medicine of Cleveland

### ACADEMY MEETING

The one hundred and thirty-fourth regular meeting of the Academy of Medicine was held Friday, December 15, 1916, at the Cleveland Medical Library, the President, Dr. Wm. Evans Bruner, in the chair.

The minutes of the previous meeting were read and approved. The minutes of the Council meeting of December 12th were read and approved.

The annual report of the Secretary was read. Motion was made to approve and place on file. Carried.

The annual report of the Treasurer was read. Dr. J. B. McGee reported that the Auditing Committee had examined accounts and found them correct. Motion was made and seconded to approve the report of the Treasurer as audited and place it on file. Carried.

In the absence of Dr. Perkins the report of the Committee on Public Health was read by the Secretary. On motion the report was approved and ordered placed on file.

Dr. Moorehouse reported for the Membership Committee. On motion the report was approved and ordered placed on file.

Dr. Dexter gave a report for the Program Committee, including the work of the committee under Dr. Taylor before he was called away for army service.

As Dr. Sanford and Dr. Thomas were delayed by attendance at another meeting as representatives of the Academy, their reports were passed until after the address of the evening.

Dr. Bruner announced that Dr. Dexter, Chairman of the Program Committee, was in receipt of an eleventh-hour telegram from Lt. Col. Page stating his inability to appear because of an order to report for special duty, and that Dr. John Ridlon, of Chicago, who had come to Cleveland to meet Col. Page, had consented to give a talk upon the subject announced.

### Program

#### 1. The Relation of the Medical Profession to National Preparedness, by Dr. Ridlone, Chicago.

I have assumed that the Medical Reserve Corps of the Army has been instituted for men who have served as contract surgeons, and to make available more competent members of the profession. But there are very many men who belong to the Medical Reserve Corps who are but nominal members and take no active interest in it. I spent two weeks in training at Plattsburg. This was the first time that 7,000 men had been under arms since 1865. The Government promised to provide the necessary camp equipment for us. There were 46 men there for training during the last two weeks of July; not half of these were Medical Reserve Corps men. At Chicago we have 200 men who belong to the Medical Reserve Corps. Ten per cent of these went to Sparta, Wis., five per cent took the correspondence course and fifteen per cent took the Plattsburg training.

During the two weeks training at Plattsburg we received good, wholesome food and an abundance of exercise. The daily routine was somewhat like the following:

5:45 A. M., reveille; 5:55 roll call, after which we spent one-half hour at setting-up exercises; 6:30, breakfast, followed by camp patrol, making up our beds, etc.; 7:30, foot drill for one hour; 8:30, lecture; 9:30 to 12:00, paper work; 12:00 to 2:00, recess; 3:30, lecture; 4:30 to 6:00, tactical walk.

You may ask, why the drill? Why the paper work? This is absolutely necessary for every medical officer, so that all business can be done in an



orderly way. A medical officer must have some knowledge concerning drill, etc., if he expects to have men under his command. Without any knowledge of paper work, an army officer cannot draw his pay, rations or equipment.

The lectures pertained to the duties of various officers. Allow me to cite some of the duties of the Regimental Surgeon. He is in charge of the sanitary troops of his regiment; he puts up first aid stations. He is responsible for morning sick calls. His troops must be trained and properly clothed and fed. The kitchen, ice-box, table service, disposal of waste, construction of latrines, etc., must be inspected by him. The most important duties are military, then sanitarian. Being a surgeon is of less importance. A trained soldier is better on the battlefield than the doctor. This is but a short summary of what is required in order to be a member in good standing in the Medical Reserve Corps. If this country was at war it would require two million men, and 20,000 surgeons. At present there are 443 surgeons in the regular army, and 1,400 in the Medical Reserve Corps.

At the close of Dr. Ridlone's remarks, Dr. Bunts related certain of his experiences as a volunteer surgeon in 1898, showing the necessity of knowledge of the army routine methods.

On motion of Dr. Eisenbrey a vote of thanks was extended to Dr. Ridlone.

The President then called for the report of the Civic Committee. Dr. Sanford stated that the committee had done little upon the subject of tuberculosis referred to it, feeling that the Anti-Tuberculosis League had that well in hand. He reviewed the work of the committee in particular upon the effect of the Harrison Narcotic Act upon the problem of handling drug habitues. He outlined the scope and purport of the questionnaire upon fees, which is to be sent out in the forepart of the year.

On motion the report was approved and ordered placed on file.

Dr. J. J. Thomas read the report of the Milk Commission. On motion the report was approved and ordered placed on file.

The President then called for the report of the tellers. Dr. Cummer stated that the total number of ballots received was 282, 56 per cent of the total membership, and resulted in the election as follows:

*President*—R. K. Updegraff.

*Vice-President*—C. H. Lenhart.

*Trustees*—F. E. Bunts and R. H. Birge.

The chair appointed Dr. Cummer and Dr. Houck to escort the President-elect to the chair.

Dr. Updegraff acknowledged the honor conferred upon him by the Academy.

Dr. Bruner spoke briefly of the pleasure it had been to him to serve as presiding officer during the year, thanking the members of the Academy for the interest they had shown in the meetings, and the committees for their labors, and the Council for its interest and loyal support—and he wished his successor the same co-operation.

On motion the meeting was adjourned.

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### Report of the Secretary of the Academy of Medicine of Cleveland December, 1916

Your Secretary has the honor to report the following summary of the activities of the Academy, exclusive of the work of standing committees, which is contained in the report of the chairmen of these committees:

The Council held 11 meetings, with an average attendance of 12. Full reports of these meetings have been published in the *Journal*.

The Academy has held 9 regular meetings, with an average attendance of 92.

The Sections have made the following report to the Council:

	Number Meetings	Total Attend.	Av. Attend.
Clinical and Pathological.....	8	497	62
Experimental Medicine .....	7	333	47
Ophthalmological and Oto-Laryngological.....	6	116	18
Veterinary .....	5	80	16

	Papers Read	Cases Shown	Specimens
Clinical and Pathological.....	21	25	13
Experimental Medicine.....	19		
Oph. and Oto-Laryngological.....	19	17	

Last year the Veterinary Section held a clinical meeting. Another was held this year, which was so well received that a committee has been appointed to arrange for another clinical meeting early in 1917.

The annual outing was held August 30th at the Cleveland Yacht Club, which, situated on an island at the mouth of Rocky River, affords an excellent opportunity for a variety of sports and entertainment. Attendance was 113.

Contrary to the the fear expressed by some, the increase in the dues has not caused a marked decrease in the active membership. This will appear in the report of the chairman of the Membership Committee. The net loss for the year in all classes of membership is 18. The net loss in active membership, which is most concerned in the increase in dues, is 19. Considering that there were 7 deaths during the year and that 7 members permanently removed from the city, the net loss directly chargeable to the increase in dues would not exceed 5. This is materially offset by the 7 new applications and 2 requests for reinstatement received since December 1st, the date of this compilation.

The Legislative Committee has been inactive, as there was no meeting of the legislature this past year. Its chairman, Dr. C. E. Ford, because of removal from the city, found it necessary to resign from this committee as well as from the chairmanship of the Committee on Arrangements of the O. S. M. A., but not until the work of the latter committee was well under way.

The Civic Committee under Dr. H. L. Sanford has been exceptionally active. Among other things it has devoted much time with a committee called together by the United States Internal Revenue Officers for considering the lack of facilities for the treating of narcotic patients. It is through activities of this type that the Academy is coming more in touch with public problems and is aiding, as it should, in their solution.

The special committee upon the constitution and by-laws, of which Dr. Moorehouse was chairman, devoted much time to changes in and recasting of the constitution and by-laws. The deliberations of this committee and the report of the Council thereon constitute the amendments to the constitution and by-laws adopted by the Academy at the September meeting. The present election of officers has been held under the new provisions. The report of the tellers will show that more members have expressed a choice for the nominees than have ever been able to attend an annual meeting. In all probability next year the proportion of membership voting will be much greater.

The Academy entertained the Ohio State Medical Association May 17, 18 and 19. The attendance at this meeting was the largest in the history of the Association. The success of the meeting was due largely to the forethought and activities of the Committee on Arrangements.

At this meeting of the State Association medical defense was definitely established by the House of Delegates. This necessitates the collection of



dues for the coming year prior to January 1st. It should be understood that a member does not forfeit membership in his local society if he fails to remit by that time, but he does forfeit any protection under the defense fund during and for the period covered by the delinquency. This matter has already been brought to the attention of the members.

Respectfully submitted,

J. E. TUCKERMAN,

Secretary.

### Report of the Treasurer of the Academy of Medicine of Cleveland 1916

#### Balance on hand Dec., 1915—

Savings Account .....	\$ .70
Checking Account .....	49.09

#### Receipts—

Dues and Admission Fees for 1916.....	5,132.50
Receipts from Outing, 1916.....	162.00
Interest on Savings Account.....	2.98
Dues to date for 1917.....	1,107.00

#### Disbursements—

Ohio State Medical Association.....	\$1,506.00
<i>Cleveland Medical Journal</i> .....	1,002.00
O. S. Hubbell (printing and postage, programs) .....	642.23
Cleveland Medical Library Association.....	501.00
Secretary-Treasurer .....	3.00.00
Outing .....	241.51
Traveling Expenses of Speakers.....	199.95
Rosters .....	30.00
J. C. Harding (Operating Projectoscope).....	28.00
Installing Desk Phone.....	27.00
Reports of Meetings (Weihrach).....	25.00
Office Supplies (Roberts Co.).....	13.15
Horace Carr (Printing).....	10.55
Checks Returned (N. S. F.).....	10.00
Receipt-Labels .....	5.00
Davis & Farley (Treasurer's Bond).....	2.50
Stencils (Addressing Machine) .....	1.94
Miscellaneous .....	11.09

Total .....	\$ 4,556.92
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#### Balance on hand Dec. 1, 1916—

Checking Account .....	306.67
Savings Account .....	1,590.68

\$ 6,454.27	\$ 6,454.27
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### Summary—Report of Treasurer of the Academy of Medicine of Cleveland 1916

#### Balance Dec. 1, 1916—

Checking Account .....	\$ 306.67
Savings Account .....	1,590.68

Total .....	\$1,897.35
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Payable to 1917.....	\$1,107.00
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Balance 1916 .....	\$ 790.35
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Withdrawn from savings account during 1915 to meet 1915 expenses (leaving balance of \$0.70 at beginning of this year in sav. acct.)....	\$550.00
Bills still unpaid at audit of 1915.....	152.00
	<hr/>
	\$702.00

### REPORT OF MEMBERSHIP COMMITTEE—1916

The Membership Committee of the Academy for the year 1916 consisted of the following: N. M. Jones, P. A. Jacobs, J. C. Fox, Jay D. Sharp, N. M. Bucher, M. Garber, with the undersigned as chairman.

Perhaps from a failure on the part of the chairman to put ginger into the campaign, there has been no marked activity on the part of the Membership Committee as a whole during the present year. In particular I wish to state that the fact that the O. S. M. A. affords medical defense to its members in malpractice suits has not been made a basis of a campaign for new members.

The membership of the Academy at this date is 635 of which 510 are active members. One year ago the total was 651, 529 being on the active list. There was a loss in the total membership during the year of 16, a loss of 19 among active members.

If there might be manifested a somewhat degree of enthusiasm for the Academy on the part of the 510 active members the work of a membership committee would be easier and more fruitful.

Respectfully submitted,

G. W. MOOREHOUSE, M. D., Chairman.

### REPORT OF PROGRAM COMMITTEE

Mr. President and Members of the Academy of Medicine of Cleveland: Your Program Committee has the honor to report the following. During the year 1916 there have been nine regular meetings and one special meeting held. The meeting of May 19, 1916, was omitted on account of the meeting of the Ohio State Medical Society which occurred in Cleveland on May 17, 18 and 19. During the year the Academy has been addressed by 18 speakers. Nine of the speakers were from Cleveland and nine from other parts of the country. In accordance with the custom of past years your Program Committee has supplied speakers for the general meetings of January and February. Respectfully submitted,

RICHARD DEXTER,

Acting Chairman, Program Committee.

### REPORT OF COMMITTEE ON PUBLIC HEALTH—1916

Although no matters relating to public health have been specifically brought up before the Council, the chairman of the committee has been actively concerned during the year with a thoroughgoing revision of the Sanitary Code. This is now undergoing its final draft before presentation and the chairman feels that such sections of it as more immediately concern the practicing physician should be brought before the Council and Academy, in order that the backing and influence of the latter may be given to the efforts of the committee.

It was hoped that this would be in shape for presentation before the end of the year, but it has been impossible on account of the great difficulties connected with the work. It is hoped that it will be in shape to present early in 1917. Respectfully submitted,

ROGER G. PERKINS, M. D.,

Chairman Committee on Public Health.



## REPORT OF MILK COMMISSION—1916

## Annual Tuberculin Test

At the annual tuberculin test conducted by the State last April, of 130 animals tested, no reactors were found. Eight cows, however, reacted somewhat suspiciously and were therefore held for retest. Of these, seven subsequently passed, and one (a heifer raised on the farm) has not been retested.

## Cows Added to the Herd

Of 81 cows bought for the herd, 76 passed the tuberculin test. Four reacting animals were shipped to the stockyards. One cow, considered to have reacted atypically, is held at the farm awaiting the retest.

## Mastitis

Signs of garget are looked for daily by the herdsman and superintendent in the following manner. Samples of milk from each quarter of the udder are drawn into four test tubes and the color and consistency of the respective samples compared. In this way it is possible to detect a beginning inflammation of the udder at a very early stage.

During the past eleven months 479 counts were made by the bacteriologist of the Telling-Belle Vernon Co., Mr. Frohring, and are charted as follows:

January .....	48	counts	average	5612
February .....	56	"	"	6683
March .....	56	"	"	6475
April .....	50	"	"	5932
May .....	51	"	"	5798
June .....	44	"	"	5929
July .....	40	"	"	12270
August .....	39	"	"	13800
September .....	30	"	"	12590
October .....	38	"	"	8568
November .....	27	"	"	9834
	479			93491

Making an average for the 479 counts covering a period of eleven months of 8499. The average bacterial count for July, August and September was 12886, and for the other eight months, 6853.

An unfortunate breakdown in the cooling system occurred in July, whereby the cooling with brine was impossible for several days. This resulted in a few high counts, raising the general average for the entire month as noted above. A contributing factor in raising the counts in this month was necessary repairs in the cold storage room. New cement had to be put down and for two or three days the door of this room remained open.

In August the cooling system again became deranged, due to a breakdown in the pumps used in pumping the brine through the cooler. The effect of this breakdown was that for about ten days it was impossible to cool the milk below 45 or 50 degrees.

A third possible factor in raising the counts during these three months was the long-continued, unprecedented hot weather.

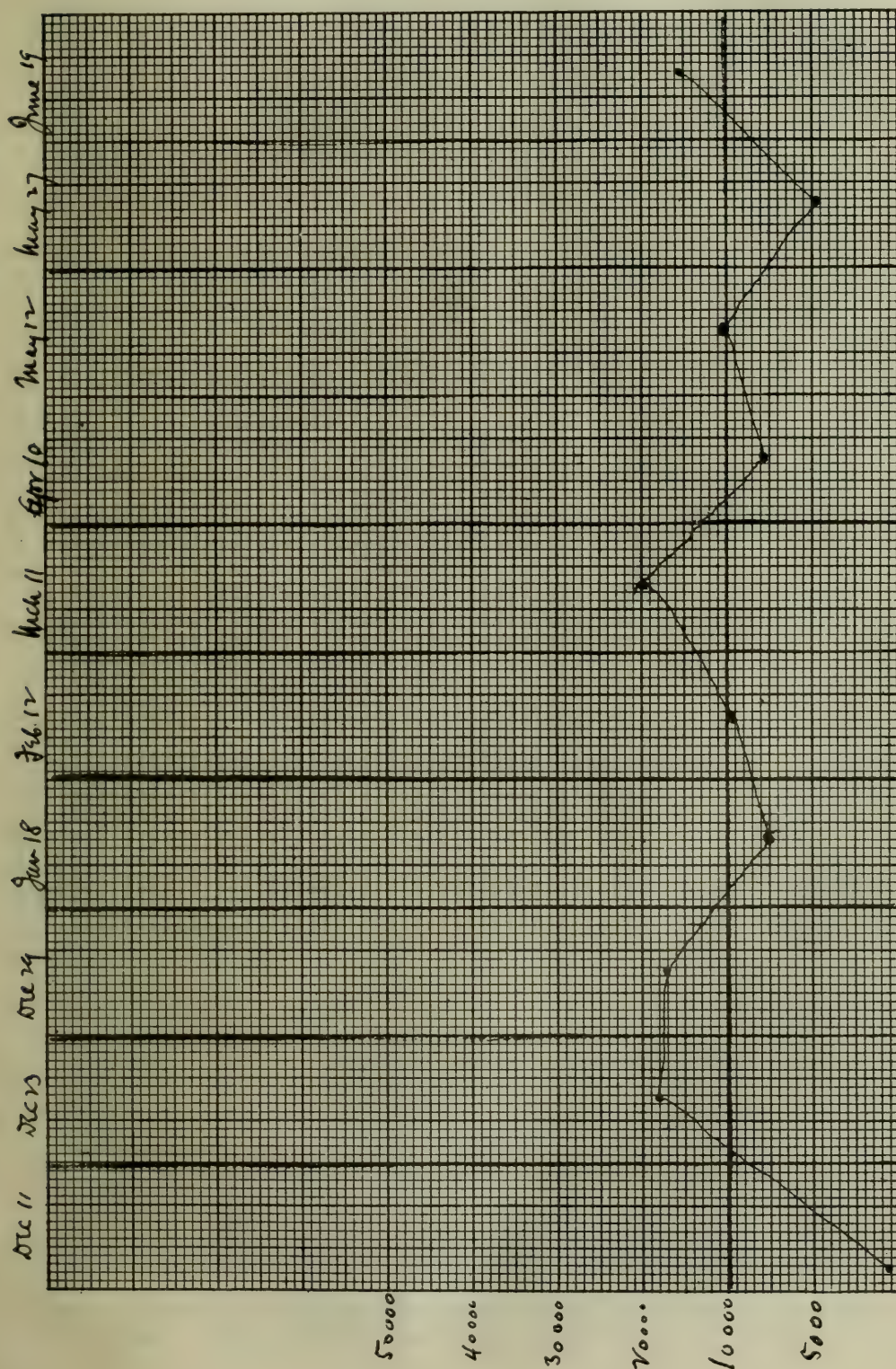
The 479 bacterial counts made and referred to above were checked up by 19 counts made at intervals of from 1 to 4 weeks by Dr. R. G. Perkins, and Mr. H. O. Way, of the City Laboratory. These counts have been charted and are appended to this report.

Three complete chemical examinations made by Mr. Simpson under the direction of Dr. McLoud have always revealed the standards required of certified milk.

### Certified Milk

Until July last the milk used in the Walker Gordon modification laboratory has been produced on the certified farm at Novelty and shipped sealed in bulk to the laboratory.

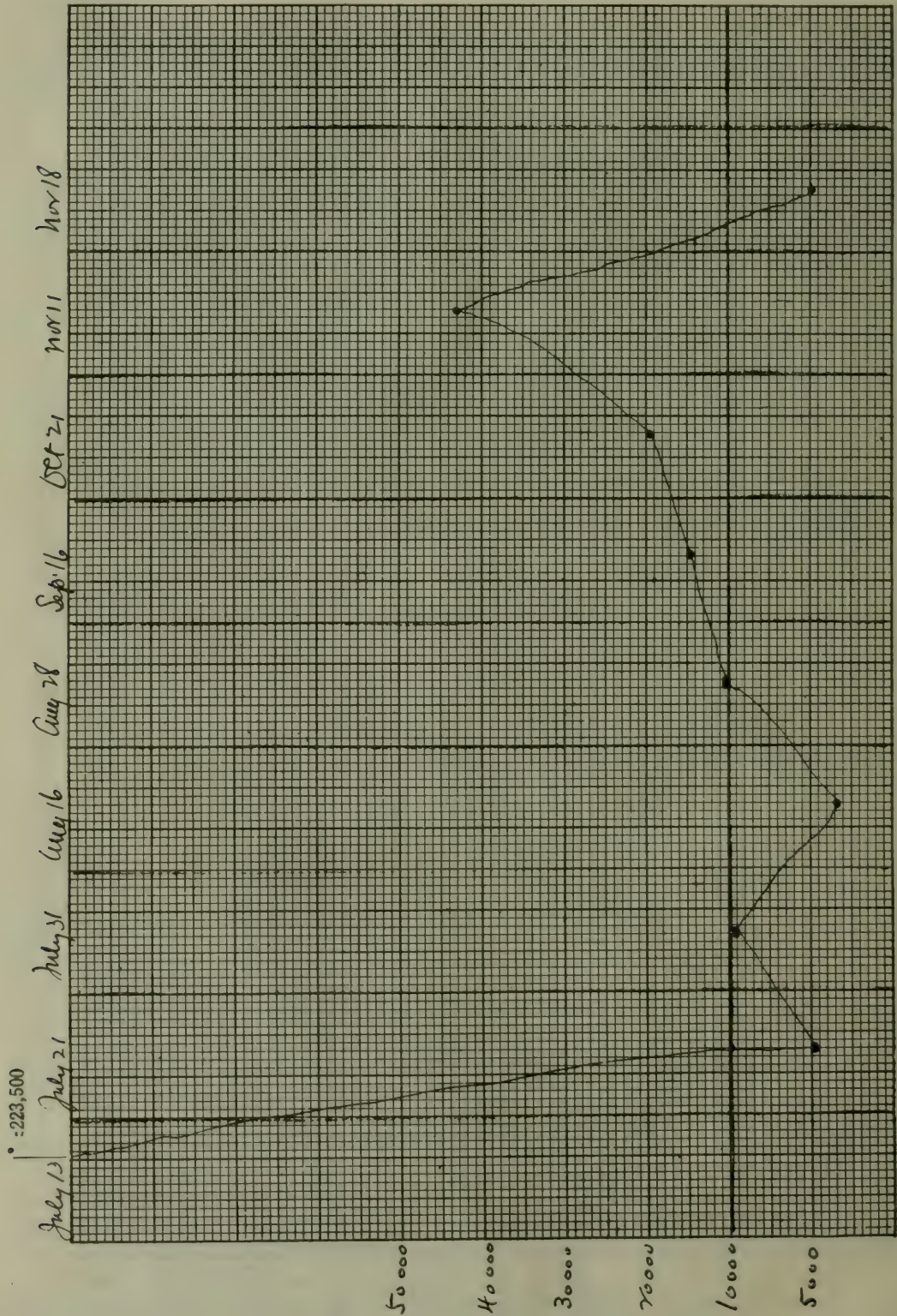
Owing to a shortage of certified milk a request was made by our producer to the Secretary of the Commission that the milk produced at the Willoughby farms be used for modification purposes.



Official Counts Certified Milk, by R. G. Perkins and H. O. Way.



After several inspection visits had been made to this dairy by Dr. Samuel Burrows and Dr. A. F. Furrer and changes suggested by them in the equipment and technique had been made, permission was given that this milk be used for modification purposes. Since July 15th regular monthly inspections have been conducted by both the Veterinarian and Assistant Secretary, who report that all the requirements demanded in the production of certified milk are adhered to except that of bottling at the farm.



Official Counts Certified Milk, by R. G. Perkins and O. H. Way.

A proof of the high standard of the milk produced at the Willoughby dairy is that of 218 bacterial counts made almost daily during a period of ten months, only 23 (10.5%) were above the certified standard.

Early in August last, owing to a shortage of milk at the certified farm, due to necessary alterations in the barns, the producers requested that they be permitted to bottle the product of the Willoughby farm in their city plant and to retail the milk as certified, with the provision that it should be for the use of adults only. As the Commission's experts had supervision over all the details of the production at the Willoughby plant, it was deemed wise to adopt this plan as an emergency measure, particularly as the daily bacterial counts of this bulk milk on its arrival in the city had been uniformly within the standard set for certified milk. Just as soon, however, as a sufficient number of cows were added to the certified herd, the bottling and sale of the Willoughby milk was suspended.

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## CLINICAL AND PATHOLOGICAL SECTION

The one hundred and twentieth regular meeting of the Clinical and Pathological Section was held Friday, December 1, 1916, at the Cleveland Medical Library, Dr. Frank J. Geib, chairman.

### I. Report of Several Cases, by A. Peskind, M. D.

#### (1) *A Case of Encephalocele:*

Child, female, normal delivery,  $8\frac{1}{2}$  pounds. At birth there was a small encephalocele found behind and below posterior fontanelle. The tumor did not increase in size very much. At the end of a month the tumor was removed. Microscopically the specimen showed: skin, sweat, and sebaceous glands, nerve tissue, ependyma and neuroglia.

Nine months after the operation, the head is microcephalic; however, the child is apparently normal. (This paper was published in November, 1916, issue.)

#### (2) *A Case of Hydrocephalus:*

At birth the child had a spina bifida, meningocele, and hydrocephalus and a double inguinal hernia. One femur was very wide, the other was but a mere spindle. This thin femur was broken during delivery. The child was completely paralyzed from his hips down. At this time the tumor in the back was removed and the opening covered with the skin of the back. At seven months of age the hydrocephalus began to progress rapidly, the child began to lose in weight, and became very weak. Three small holes were then made through the skull, on the right side behind the Rolandic fissure. Silk thread was then introduced into the ventricles, the subarachnoid and subdural space. Within three weeks the size of the head receded, the diameter of the head was about two inches smaller. Five weeks later the thread in the brain was removed and found to be absolutely sterile.

If this case had been operated on earlier, I think our results would have been much better. It was also suggested that the drains should remain permanently, and that drainage should be established not only into the subdural and subarachnoid space, but also subcutaneously. (This paper was published in November, 1916, issue.)

#### (3) *A Case of Brain Injury in a Child:*

The child, female, 6 years of age, struck by an automobile and brought into the hospital, unconscious, bleeding from the mouth, nose and ear. Fracture of the base of the skull made out by the X-ray. It extended through the occipito-parietal temporal region. A decompression operation was performed. After the operation, during the first four days, the child was restless, had involuntary urination and defecation. After the seventh



day the child recovered rapidly, and at the end of three weeks the child was allowed to get up. At this time the temperature rose to 103°. The wound was opened up and a large hematoma was found. This was cleaned out thoroughly, but the temperature continued. A small hole was then made in the lowest portion of the occipital bone, and 40 c.c. of black liquid blood removed. The temperature continued for one month following this operation and then subsided gradually. The child was then allowed to get up, but showed no return of the fever. (This paper appears in full elsewhere in this issue.)

**(4) *A Case of Obscure Septic Fever:***

Child was sick two weeks, the temperature varying from 96° to 106° within 24 hours. A diagnosis of gastro-intestinal upset was made. The child was then brought into the hospital, and after a complete examination nothing could be found, except a slight dullness to the left of the heart at about the second and third interspaces. The X-ray revealed a small mass about the size of a walnut in this area. An exploratory needle was put in and a half drachm of pus removed. Complete recovery resulted. (This paper appears in full elsewhere in this issue.)

**II. Chloroform in Obstetrics, by Wm. D. Fullerton, M. D.**

Much has been written against the use of chloroform in obstetrics. Some time after Simpson introduced it, it was used quite frequently, but later many observers have discredited its value. Baker showed that pregnant animals have no special immunity towards chloroform. Whipple lays stress on the latent chloroform poisoning. Graham showed that toxic effects follow the administration of chloroform, due to the hydrochloric acid liberated. Guinea pigs require one hundred times and dogs nineteen times as much chloroform per kilo-body weight as do women.

The possibility of pneumonia following chloroform is less than in ether anesthesia. Ether is highly inflammable and this speaks against it. The objection that chloroform inhibits the proper contraction of the uterine musculature is not a good one. If small amounts of chloroform are administered, and the anesthesia is very light, there need be no danger of post-partum hemorrhage, due to relaxed uterine musculature. Many obstetricians endorse the use of chloroform in normal cases. It is easily administered, quite agreeable to take, and the patient's pain is relieved. As the head begins to descend, very light anesthesia is employed; when it reaches the perineum, complete anesthesia is resorted to. The rapidity of recovery from the anesthetic is variable. There is no vomiting following. Great care must be employed in its administration, since it is rapidly absorbed and acts rapidly; it allays pain more than ether and the expulsive forces are not hindered under light anesthesia. (This paper was published in full in the November, 1916, issue.)

**III. The Complement Fixation Test in Tuberculosis, by A. A. Eisenberg, M. D.**

The same principles as in the Wassermann reaction are employed in the complement fixation test. Hammer first used lung tissue as an antigen, but this was soon abandoned. Extracts of tubercle bacilli were then used, but the results were varied and unsatisfactory.

In 1914 Brenner used a culture filtrate quite successfully; of the 95 per cent positive cases, 20 per cent were in patients who had syphilis and gave a positive Wassermann reaction. The best antigen today is that of Muller. It is a polyvalent antigen, made from cultures grown on Petroff's media. I used 14 different cultures. The growth is scraped off with a platinum loop into a mortar and ground up with a small amount of salt; enough water is then added to make an isotonic solution. Six cases of quiescent tuberculosis all showed negative tests. Blood from 18 patients was then sent to me by Dr. Moorehouse. I found 9 positive and 9 negative. The cases that had

negative sputum examination, also had a negative complement fixation test. The test is not confined to pulmonary tuberculosis alone, but is also advantageous in bone tuberculosis.

### Discussion: Dr. Moorehouse

I will give a brief summary of the 18 cases of pulmonary tuberculosis mentioned in Dr. Eisenberg's discussion. Of the 9 cases which showed a positive test, one had a positive sputum. The clinical diagnosis, in one case, was advanced pulmonary tuberculosis, two were early tuberculosis, one quiescent. One case of chronic bronchitis, emphysema and asthma gave a positive test.

Among the 9 cases that had negative tests, one had tubercle bacilli in his sputum, fever and the usual signs of a fairly active tuberculosis. He spent six months at a sanitarium and returned markedly improved. Four cases were quiescent or apparently arrested; two were clinically improved. One had fever, positive signs at one apex, and tubercle bacilli in the sputum. The last case had a very extensive fibrosis of the lung.

## EXPERIMENTAL MEDICINE SECTION

The ninety-first regular meeting of the Experimental Medicine Section of the Academy of Medicine was held December 8, 1916, at the Cleveland Medical Library, with Dr. H. J. Karsner in the chair.

### Program:

#### I. The Fate of Iodin in the Body, by T. Sollmann, M. D.

It is a well-known fact that compounds of iodine are excreted in the urine mainly as iodides. Since the systemic effects are essentially the same and produce iodism, some believe that it is due to the liberation of elementary iodine. When we examine the subject, there is no direct evidence of any such liberation; nor can any reasonable theory be advanced. The most reasonable supposition for the interplay of iodine in the body would be a formula, viz.:  $6 \text{ Na O H} + 6 \text{ I} = 5 \text{ NaI} + \text{NaIO}_3 + 3 \text{ H}_2\text{O}$ .

On this basis one might suppose that if free iodine be administered it may combine with iodates and free iodine occur. If iodides were given some other change would have to occur before iodates could be formed. It was my purpose to determine whether such a reaction could occur in the body. The tests for free iodine are very unreliable, when determinations are made on the body fluids. We removed this difficulty by dialyzing through parchment to free the iodine from proteins. This method is applicable to iodines, iodates, and free iodine if diluted sufficiently.

When free iodine is added to serum it combines promptly, forming iodides. Subsequent acidulation of the serum does not liberate the iodine. Iodides or iodates do not combine with the serum. If large doses of free iodine were given by the stomach they existed solely as iodides in the body fluids. In the case of any iodide, iodate or iodide nitrate mixture with an hydrogen ion concentration of 6.4, no iodine could be liberated. This acidity is greater than exists in the body. The alkalinity of the body is not sufficient to bind any noticeable quantity of iodine.

Thus we have shown that iodine when administered cannot be liberated as iodine, since it is combined with the protein of the body, and the hydrogen ion concentration of the blood is not high enough.

#### II. Measurement of the Pulmonary Circulation with Special Reference to Congenital Heart Disease, by R. G. Pearce, M. D.

Dr. Pearce briefly discussed the various methods for the estimation of the cardiac output. The Lowey-Schrotter method consists in the determination of the carbon dioxide content of the arterial and venous bloods, together



with the estimation of the respiratory exchange. The total carbon dioxid excretion per minute divided by the difference in c.c.'s of carbon dioxid between arterial and venous blood, gives the cardiac output. Plesche's method follows the same principles, but employs the oxygen content of the blood and the oxygen absorbed per minute. The technical difficulties involved in these procedures were pointed out. The work of Christiansen, Douglas and Haldane on the influence of oxygen on the dissociation curve of carbon dioxid in the blood proved to be of great importance in estimating the venous carbon dioxid tension.

These same principles were followed out in estimating the cardiac output of three brothers. The interesting feature about these boys was their cyanosis, which existed since birth, and the absence of other physical signs. The pulmonary blood flow was estimated by gasometric methods in the case of these three brothers and in normal control boys of similar ages. The results indicated that there was a great reduction in the amount of blood passing through the lungs of the cyanotic boys when compared to the normal control boys. The blood flow in their peripheral circulation, as determined by Stewart's method, however, was markedly increased. X-ray examinations showed an increase in the transverse diameter of the heart. There was a diastolic impact felt over the conus arteriosus, together with an accentuation of the pulmonic second sound. Blood counts showed a slight increase in the erythrocytes, the hemoglobin was above 100 per cent as determined spectrometrically.

#### **Discussion: Dr. Stewart**

Dr. Stewart discussed the difficulties accompanying methods of cardiac output estimations when applied to the patient. They may appear very simple and in reality are such, but the technique involved is complicated and hard to carry out on pathological cases. The decrease in the pulmonary circulation accompanied by the increased peripheral circulation observed in these boys offers confirmatory evidence to the observations of Plesche that the cardiac output is increased; and to my observation, that the peripheral circulation is increased in cases of pernicious anemia.

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### **OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SECTION**

The eighty-seventh regular meeting of the Ophthalmological and Oto-Laryngological Section was called to order at 8:45 P. M., In the absence of the chairman, Dr. Prendergast took the chair.

#### **Program:**

##### **Presentation of Cases**

Dr. W. H. Tuckerman presented a patient with optic atrophy, due to a severe pan sinusitis of the self side, about two months ago. At the time first seen there was marked exophthalmus with folds of the conjunctiva protruding from the palpable tissue. The pupil was dilated and fixed. The lid could be opened for a little, but an examination of the fundus was impossible. The history was that the swelling was of two days' duration only, although she had had a cold for several weeks. As she was subject to hay fever every fall, she had paid little attention to it. A tentative diagnosis was made of cavernous sinus thrombosis secondary to the pan sinusitis. However, to give the patient every chance, a complete exenteration of the ethnoids and free opening of the sphenoid and frontal sinus was done. The exophthalmus receded gradually. At present it is hardly noticeable. The eye has remained totally blind; the arteries have shrunk to mere threads.

Dr. Lauder said that the atrophy had come on much more rapidly than ordinarily—otherwise it was a typical atrophy.

Dr. H. N. Cole presented a patient who had had a paraffin injection for correction of nasal deformity a year ago last May. For six months the appearance of the nose was much improved and there was no redness; then the skin over the site of injection became shiny and red with dilatation of the capillaries and the area of redness and enlargement has continued with exacerbations to the present time. It is a case of paraffin migration with the accompanying cell proliferation and tumor formation due to the presence of the paraffin. At present the bridge of the nose is much widened, with two tumor-like formations at the base of the bridge on either side encroaching in the inner angle of the orbits. On the left side there is beginning migration downward in the naso-labial fold into the cheek. There is also some migration upward onto the forehead in the median line, but this feels more like edema and swelling due to interference with circulation at this point. Dr. Cole does not know the melting point of the paraffin used in this case, but similar conditions have been reported from the use even of the paraffins of higher melting point.

In discussion, Dr. Prendergast stated that he had never seen a case of this kind except in European clinics, and having seen one of those, he had never attempted any paraffin work. Dr. W. H. Tuckerman said that his experience was similar to that of Dr. Prendergast's, and that he would be pleased to have Dr. Cole show this patient again in six months or a year, so that the section could see the condition at that time, as the history of this condition is one of progressive migration of the paraffin.

The ensuing officers were elected for the following year:

*Chairman*—Dr. Leo Wolfenstein.

*Secretary*—Dr. W. H. Tuckerman.

Dr. Lauder was called away from the meeting and was unable to read his paper.

Dr. Prendergast gave a report of a case of ethmoiditis in a child, complicated by unilateral exophthalmus. The child, aged six, developed, following a blow on the face, a marked exophthalmus of the left eye, accompanied with high fever. Examination showed profuse discharge of pus coming from under the middle turbinate of the same side. The exophthalmus was so marked that he made a tentative diagnosis of cavernous sinus thrombosis secondary to the sinusitis. Opening of the antrum, exenteration of the ethnoids gave prompt subsidence of all symptoms. Dr. Prendergast reports this case because of the rareness of sinus infection in young children of this age, due to the lack of development of the sinuses.

In discussion, Dr. W. H. Tuckerman said that he was very much interested in this report; that several years ago he saw a child of about the same age who had been hit by the board of a swing across the cheek and developed an exophthalmus of one side, with high temperature. In this case he made a diagnosis of cavernous sinus thrombosis, which the death within about two days substantiated. The lesson to be drawn from Dr. Prendergast's report and also from the patient which Dr. Tuckerman presented, is that the condition is not hopeless in every case in which we may feel we have already a cavernous sinus thrombosis, and this secondary to a pan sinusitis—for we may be mistaken and the choked disc, exophthalmus and high temperature may be due solely to the orbital cellulitis, and immediate operative procedure will save our patient for us. (This paper appears in full elsewhere in this issue.)

Dr. Quittner was absent, and his paper postponed.

### COUNCIL MEETING

At a meeting of the Council of the Academy of Medicine held Tuesday, December 12, 1916, at the University Club, the following members were present: The President, Dr. Bruner, in the chair; Drs. J. J. Thomas, Perkins, Moorehouse, Follansbee, Sawyer, Updegraff, Bernstein, Chamberlin, Houck, Sanford, Weir, and Tuckerman.



The minutes of the last meeting were read. Correction of the minutes was noted by Dr. Bernstein to the effect that in addition to thanking Mr. Weiss for his presentation of his subject, the motion directed that Mr. Weiss and Probation Officer Mr. Christian be asked to present the problems brought up by the enforcement of the Harrison Narcotic Law before a general meeting of the Academy.

The minutes were approved as corrected.

Letter of transfer for Dr. W. D. Hoyer from the Erie County Medical Society was read. On motion the transfer was accepted.

Letter from E. A. Peterson asking for transfer to associate membership was read. On motion the transfer was granted.

On motion the names of the following applicants for active membership were ordered published:

Francis G. Leonard, Stanislas W. Smolik.

The Secretary read the list of those dropped for non-payment of dues.

The Secretary called attention to a request from the Cleveland Real Estate Board asking the Academy to appoint two members to a conference upon the advisability of a city manager plan for the City of Cleveland. On motion by Dr. Chamberlin that the chair make the appointments, the chair appointed Dr. H. L. Sanford and Dr. J. J. Thomas.

The Secretary reported that he had at hand the reports of the chairmen of the Sections. The reports were accepted and ordered filed.

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A special meeting of the Council of the Academy of Medicine was held Wednesday evening, December 20, 1916, at the University Club, to organize for the ensuing year. The following members were present: The President-elect, Dr. R. K. Updegraff, in the chair; Drs. Selzer, Bunts, Bruner, Lenhart, Birge, Bernstein, Sawyer, Tuckerman, and by invitation State Councillor M. J. Lichty.

On motion Dr. J. E. Tuckerman was elected Secretary-Treasurer for 1917.

On motion the following were elected Chairmen of the standing committees:

*Legislative*—Dr. Geo. E. Follansbee.

*Public Health*—Dr. J. J. Thomas.

*Civic*—Dr. H. L. Sanford.

*Membership*—Dr. E. Klaus.

The selection of a chairman of the Program Committee was deferred until the first Council meeting in January at the request of Dr. Updegraff.

On motion the transfer of Dr. J. A. Meek from the Lorain County Medical Society to active membership in the Academy was accepted.

On motion Dr. Myer Brody was reinstated.

On motion the Council decided to meet at 6:00 P. M. at the University Club upon the second Tuesday of the month.

Following the special business of the meeting, Dr. Lichty spoke of the desirability of holding a meeting of the Fifth Councillor District sometime in February or March. Action deferred.

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## BOOK REVIEWS

**Pharmacology and Therapeutics.** For students and practitioners of medicine. By Horatio C. Wood, Jr., M. D., Professor of Pharmacology and Therapeutics in the University of Pennsylvania; Second Vice-Chairman of the Committee of Revision of the U. S. Pharmacopoeia. Second edition. Price, \$4.00. J. B. Lippincott Co., Philadelphia and London, 1916.

This, the second edition of this work, fully merits the approval of the profession accorded the first edition of several years ago, which it follows in general outline. Many additions and alterations have been made, however, to meet the recent revisions of the Pharmacopoeia, as well as the advances of pharmacology during this time. Fully twenty important agents not noted in the previous edition are considered, many articles being practically rewritten. The author believes that "official substances should always be favored by the physician, when not to the detriment of the patient." One innovation in the Pharmacopoeia is especially noted, the adoption of the British term "mil" for c.c., and this convenient form is followed in this work. The book is divided into nine chapters, the first being devoted to preliminary considerations, as definitions, weights and measures, prescription writing, etc. Then follow those treating of drugs used to affect secretion, the nervous system, the circulation, the alimentary tract, and metabolic processes. The closing chapter discusses drugs of minor importance. That upon the drugs affecting the circulation is quite full and complete. The book is a most satisfactory guide and ranks with the best in its special field.

J. B. McGEE.

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**Excerpts from the Minutes** of the Committee on Drug Addiction of the Committee on Social Hygiene of the National Committee on Prisons.—It was regularly moved by Dr. Frederick Peterson and seconded by Dr. Samuel W. Lambert that it be resolved that in the opinion of the committee, the drug heroin is of no real value in the practice of medicine, and that its place may be better taken by more efficacious agents that do not menace public welfare.

*Resolved*, that the committee recommend Federal legislation to prevent the importation, manufacture and sale of heroin in the United States of America.

(Signed)

SAMUEL W. LAMBERT, M. D.  
FREDERICK PETERSON, M. D.  
CHARLES F. STOKES, M. D.  
FREDERICK TILNEY, M. D.  
SIMON BARUCH, M. D.,

Chairman Committee on Drug Addiction.

HELEN HARTLEY JENKINS,  
Chairman Committee on Social Hygiene.

Attest:

JOSEPH D. SEARS, Secretary.



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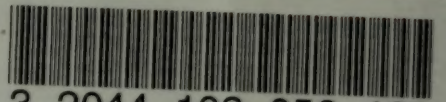


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